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THE

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A Weekly Journal of Medicine, Surgery, Public Health and of General Medical Intelligence.

Edited by RUDOLPH MONNIER M.B., M.S., Edin.

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Original Articles.

Qui docet, discit

THE VALUE OF ELIMINATION IN THE TREATMENT OF CERTAIN FORMS OF LEPROSY.*

By J. ALLISON HODGES, M. D.

If the etiology and pathology of epilepsy could be definitely determined its treatment could be logically defined. The former, however, being uncertain with our present knowledge, the lines of treatment pursued are necessarily varied and, to some extent, empiric. Consequently, in the absence of a well established and fully verified hypothesis as to the cause of all the different varieties of epilepsy, every practitioner must be guided in the treatment of the special forms of this disease largely by his personal experiences.

In the study of the large majority of the cases which have come under my personal observation, I have been impressed with the toxic pathogenesis of epilepsy, and my experience is highly corroborative of the old conception of the disease, in which faulty chemical processes were believed to play an important and conspicuous role, for in nearly all there has been a hypertoxic underlying basis with inadequate elimination

I am, of course, perfectly aware that this theory does not embrace entirely the causative factors in all cases of epilepsy, but am persuaded that it does in most of them, and even more frequently than we generally believe.

When the primal etiological factor shall be definitely determined, I believe that the most tenable theory as to etiology will be a condition—I shall not venture to say just what—that will be at least dependent upon deficient elimination, with the resultant toxic effects upon the nerve centers. If this be true, then elimination is of the utmost importance.

As a general rule, we are content to employ only such remedies and measures as will afford temporary relief and ameliorate the paroxysms, and we do not, in my opinion, in general practice, give that careful and systematic thought to the avoidance of recurrences that we should.

I do not offer you any new thought along this line—the facts are well known to you all—but I would insist that we often practice least what we know best.

It is also true that every one of us practices this general method in a general manner, but we too seldom utilize it in a practical way upon a special patient. I do not mean to be captious nor critical, but pointed and practical.

Believing that there are many estimable and scientific methods of treatments, I do not propose to be dogmatic, but would insist that, from personal observation and experience, the value of elimination, continuous and prolonged, in the treatment of this disease has not been sufficiently insisted upon by the average physician.

We all admit in a general way that the regulation of the prima viæ is one of the essential basal principles of all well ordered therapeutics; but in the treatment of epilepsy do we fully appreciate its real value and efficiency? I am constrained to say that not until recent years have I thoroughly appreciated this fact, and had its full therapeutic value firmly forced upon me. The old aphorism, "Clean out, clean up, and keep clean," has been relegated to surgical systems for too long. This maxim is of equal, if not greater, importance to the physician, and especially to him who treats epileptics.

This lesson was first taught me when I began regularly to treat my epileptic patients along special hygienic and dietetic lines. It was later more fully learned when I found that the less cause I gave a patient for auto-intoxication the less frequent were the nervous explosions, and finally it was indelibly impressed upon my convictions when, with improved methods of elimination, even more satisfactory results were obtainable.

I would not have you suppose that I am such an enthusiast as to believe that this one method is a cure-all, for it is not; but of all methods and measures known to me it is best if conscientiously administered and faithfully and continuously carried out.

Believing that there was more of utility and value in it than could usually be obtained in intermittent office consultations

* Read before National Association for the Study of Epilipsy, October 24, Richmond, Va.

and prescriptions, and washing to test this method to the fullest extent, I chose last October from my practice three children —two boys and one girl—all of nearly the same age, 12 to 14 years, and sent them to my private hospital, where I do not usually take such patients at all, for a term of six weeks.

So far as I could judge from office consultations, irregular and otherwise unsatisfactory, they were nearly on a par as to the common expressions of the disease, such as the nature, frequency, etc., of the attacks, their average paroxysms being from two to four a week, when not under large doses of the bromides.

The priliminary urinary examinations showed in each case an undue proportion of indican in the renal secretion, as well as a deficient secretion of urea.

It is needless to trace the treatment of these cases minutely; it would be as tedious to me as it would be tiresome to you; but with the exception of small doses of strontium bromide and a gradual reduction of salt in an aseptic diet until complete dechlorization was secured, these patients had no medicines given except a laxative when necessary for the elimination of the various products of metabolism.

All of the other methods available, however, for the purposes of elimination were employed, such as an aseptic diet, free water drinking, moderate exercise by means of light and interesting work, massage and vibration, sweating by means of the Baruch tonic bath system, and eliminative measures by aid of the sinusoidal, high frequency currents, etc.

The result was, that in each case the seizures were notably decreased and the general health markedly improved. The vital and resistive force in each patient was so much improved as to be readily noticed by any one, and in the case of one of the patients there has been up to this time no return of the epileptic seizures, while the other two have suffered only slight inconvenience at long and irregular intervals.

None of them have exceeded fifteen grains of strontium bromide daily and all have continued, as best they could, the eliminative and tonic measures first prescribed. These cases cannot yet be classed "cured," but their continued improvement after the lapse of a year argues well for the future.

It is eminently true of these cases that they were all of undoubted toxic origin. But be this as it may, it may nevertheless prove that there are many such who, under similar ideal conditions which are simple and accessible to all, if we only consistently carried them out, might likewise get as beneficial results: That the restrictions of the regime under which they temporarily lived was of benefit, I do not for a moment deny, but I also claim that if we, as physicians, exercised the same "eternal vigilance" of these cases as, for example, we do of our typhoid patients, that the conditions named above are not so difficult of employment or realization in our daily practice, and that epileptics would be largely the gainers thereby.

Neither do I mean to prove by this inadequate test that "three soldiers make an army" and that all such patients can be thus pronouncedly benefitted, still I do believe a feather may show which way the wind blows, and as I said in the beginning, this discussion is intended to be, not dogmatic, but suggestive; not critical, but helpful.

The inefficiency of treatment in the past should, I believe, at least lend credulity to the present method of treating some cases of epilepsy, and hold out renewed hope for greater service in the future.—THE VIRGINIA MEDICAL SEMI-MONTHLY.

HAY FEVER.

Dunbar has been led to believe that the specific causal agent of hay fever reside in the pollen of certain grains, which produces the disease in the predisposed, but has no effect whatever upon other individuals. The toxin obtained from the pollen grains which is capable of producing hay fever seems to be an albumenoid body found in the starch particles of the pollen granules. It is obtained from a variety of grasses and cereals, such as corn, wheat, oats, rye, maize, and also from goldenrod ragweed, and hogweed; it is soluble in blood serum, the secretions of the respiratory tract, and in salt solution. Undoubtedly, the poison is identical as obtained from the various sources mentioned, as it was found that hay fever artificially produced by the pollen toxin of corn was neutralized by the antitoxin obtained from rye; and bearing out the probable identity of the toxin from the various plants, it was found that the hay fever was produced irrespective of the source from which the toxin was derived.

As a result of the apparent specific character of the toxin Dunbar by working along the lines of Immunization, and injecting increasing doses of pollen toxin into animals for prolonged periods of time, was able to obtain the development of an antibody in the blood of the animal. The anti-toxin was capable of neutralizing the toxin, and immediately subdued the hay fever symptoms, with a retrogression of the objective changes produced by the toxin.

The serum antitoxin is for practical use applied by dropping one or two minims of its salt solution into each eye and nasal chamber whenever an attack of hay fever is expected, or on the presence of any irritation, and the applications are repeated as may be required.

THE CAUSES AND VARIETIES OF URETHRAL STRICTURE.

By Arthur Edmunds, M.S., M.B., B.Sc., F.R.C.S.

Obstruction to the passage of urine from the bladder can be brought about by a variety of causes, which fall into two great groups. In the former of these, the obstruction is caused by a temporary condition either of the mucous membrane—congestive stricture—or of the muscular tissues, which surround the urethra—spasmodic stricture. In the second group, there is a definite structural change in the urethral wall which narrows the lumen, and impedes the flow—organic stricture.

The separation between these two groups is however, not so sharp as it would at first seem to be; for example, an organic stricture may be complicated by swelling of the mucous membrane, and total retention of the urine brought about, in a case in which the actual narrowing of the urethra had not been very marked. Again, many cases, in which the condition of swelling of the mucous membrane has precipitated the onset of acute retention, are still further complicated by spasm of the surrounding musculature. Indeed it is uncommon to find a case of organic stricture without a certain amount of spasm.

The former group of strictures is divided into two :—

(a) Congestive Stricture.—This condition is practically always brought about by an attack of gonorrhœa. The acute swelling of the mucous membrane encroaches upon the lumen of the urethra, until it is, with the greatest difficulty, that any urine can be passed. The amount of swelling is never great enough to completely block the urethra, but micturition is often so intensely painful that the patient involuntarily refrains from passing his water, and thus what is practically retention of urine supervenes. These cases are also complicated by spasm, the pain caused by the passage of urine starting the reflex, which leads to contraction of the muscular tissue of the urethral wall.

(b) Spasmodic Stricture.—The urethra is surrounded, especially towards its posterior portion, by a considerable amount of muscular tissue. Part of this is unstriated, involuntary muscle supplied by sympathetic nerve fibres via the hypogastric nerve. This portion is continuous with the outer layer of the vesical musculature, and forms an integral part of the urethral wall. The other portion, the compressor urethræ, is composed of striated voluntary muscle, which surrounds the membranous portion of the urethra, between the two layers of the triangular ligament, and is innervated by the pubic nerve. In spasmodic stricture, it is the unstriped muscle which is mainly concerned.

The efficiency of this contraction has been recently studied experimentally by Elliot. This observer exposed the bladder supra-pubically in a cat, and then passed a tube from the bladder a short distance into the proximal end of the urethra, where it was tied in. A second tube was then passed from the distal end up to, but not meeting, the first tube, leaving a centimetre of urethra between the ends of the two tubes. Fluid could then be made to pass from one tube to the other through the connecting portion of the urethra. Stimulation of the hypogastric nerve caused contraction of the urethra, preventing the fluid flowing from one tube to the other. In this way, he was able to measure the amount of pressure which the urethra was able to support by contraction of its muscular wall. He found that 1 centimetre of urethra could be made to uphold a pressure of from 50 to 60 centimetres of water.

The hypogastric nerve not only exercises a motor influence over the musculature which closes the bladder, but it also has an inhibiting action over a certain part of the bladder muscle, so that, when reflex stimulation of this nerve occurs, there is not only an obstruction to the outflow, but also a diminution in the contractile power of the bladder. The so-called spasmodic stricture has therefore two factors in its constitution, and it is probable that, in many cases, the inhibitory action on the bladder wall is at least as important as the actual spasm of the urethra. Thus in many cases, although the patient is unable to pass a drop of urine unaided, a full sized catheter can be introduced without meeting with the slightest resistance.

In such cases also, it is common to find that the bladder is distinctly atonic, and can only be completely emptied by supra-pubic pressure. This is the type of spasmodic stricture, which occurs in inflammations of the peri-urethral tissues, and after operations on the pelvis. In those cases, in which there is spasm complicating an organic stricture, it is probable that there is a pure spasm of the urethral muscle, and, as unstriped muscle is very difficult to fatigue, the spasm can be maintained for a very long time. Many cases occur in which it is impossible to pass a catheter through a stricture, but in which the instrument can be passed into the opening of the stricture, where it remains tightly gripped. If, however, the instrument is left in this position for a few hours, it is then found that the catheter can be passed readily through the stricture into the bladder. Here the actual organic stricture has been of sufficient size to admit the catheter, but the spasm, which accompanies the constriction, has been so marked, that the instrument could not be passed.

Traumatic Strictures.

Injuries of the urethra may be divided into several classes :—

(a) Incised wounds.

(b) Injuries produced by a fall, astride some hard body, such as a railing, a scaffold pole, by falling in a sitting position upon a sharp stone, or even by being thrown forward against the pommel of a saddle.

(c) By a kick or blow in the perineum.

(d) As a complication of fracture of the pelvis.

(e) Lacerated wounds produced by foreign bodies, or by catheters.

Incised or lacerated wounds of the urethra are not common, but when they do occur they are usually situated anterior to the peno-scrotal fold. The tendency to the formation of stricture very largely depends, as in all cases of urethral injury, upon the amount of urinary infiltration, and upon the degree of separation between the cut edges of urethral wall. In a longitudinal incision, such as is made by the surgeon to remove a calculus, or as a preliminary to an operation on the posterior urethra, the freedom of communication between the lumen of the canal and the exterior allows the urine to escape freely, and if the urine is sterile, there will be no inflammatory tissue formed around the wound. There is, moreover, no tendency to separation between the cut edges, and, in consequence, these wounds tend to heal readily, and without any stenosis of the urethra.

In transverse wounds of the urethra, there is a distinct tendency to the formation of a diaphragmatic stricture, unless the edges of the wound can be accurately united. If the wound involves only a part of the circumference, there is, of course much less tendency to separation of the cut edges, and less liability to stricture formation. Experiments on dogs have demonstrated that there is nothing in the urethra itself, which specially hinders primary union, stricture being brought about by the scar tissues formed between its cut edges, or as the result of septic infection. This may occur either from infected urine or from outside.

In laceration of the urethral mucous membrane, by calculi or foreign bodies, there is no marked tendency to stricture formation. In fact, the urethral mucous membrane, like all the mucous membranes, heals readily. It is surrounded, however, by sub-mucous tissue, and by the corpus spongiosum, and it is the infiltration of this, by inflammatory products, which leads to the formation of strictures.

Injuries, produced by a fall astride, or by blows in the perineum, are found most commonly in the bulbous and membranous portion of the urethra. The mechanism of their production is comparatively simple, the urethra being forcibly compressed between the lower edge of the pubic arch, which is a sharp ridge of bone, and the object upon which the patient has fallen. The degree of injury sustained varies from a slight bruising of the peri-urethral tissues, without any laceration of the mucous membrane itself, to a complete rupture of the whole urethra with wide separation of the torn edges. This separation may be as much as 2 centimetres. Some of these cases do not attract very much attention at the time that the injury is sustained; the patient notices that he has had a fall, and the parts feel tender and bruised for a few days, or there may even be slight dysuria. Subsequently, however, often after the lapse of years, a stricture develops, and it is only after careful enquiry that a history of an injury can be obtained. These cases have been termed by French authors "interstitial rupture of the urethra," and the name indicates fairly well the actual nature of the injury.

The middle of the bulbous portion of the urethra is surrounded by the corpus spongiosum, a structure which consists of a number of intercommunicating venous channels, separated from each other by fibrous septa. An injury to this structure leads to the rupture of some of these septa, so that a hæmatoma is produced. The coagulation of the blood, which is thus stagnated, leads to the obliteration of the venous sinuses, and to the formation of a mass of granulation tissue in consequence of the organisation of this clot. It is now quite easy to understand that this will be replaced by fibrous tissue, which, in its turn, will contract, and lead to the formation of a stricture.

When there has been more severe injury, the rupture extends through the urethral mucous membrane. Although the amount of internal injury may be very extensive, it is not common for the skin itself to be wounded, so that these cases present a different clinical picture from that of an incised wound. In the latter group of cases, although the urine cannot pass along its natural channel, any that escapes through the wound of the canal, passes freely through the opening in the skin. In these cases, the extravasated urine is unable to find a passage, and consequently, makes its way into the cellular tissue of the perineum, and the lower portion of the abdomen, leading to the formation of a large mass of mixed urine and blood surrounding the urethra. Unless promptly dealt with, these cases almost inevitably suppurate, and the amount of injury to the urethral wall is increased by the sloughing which take place in consequence. If the patient survives, the abscess will point in the perineum, and rupture. The patient will thus have a fistulous track communicating with the

urethra, and, in a bad case, the whole of the urine will pass along this, none coming through the meatus, and, in time, the portion of urethra in front of the injured spot will become obliterated.

Fortunately, however, the severity of the initial symptoms usually leads to prompt surgical interference, and where the torn edges of the urethra can be sutured, and asepsis maintained, the amount of cicatricial contraction may be very small; if, however, the separation of the ends is very marked, and so much tissue is destroyed that accurate suture is impossible, a zone of granulation tissue will form between the torn edges, and, becoming converted into a contracting scar, produce a very intractable type of stricture.

In fractured pelvis, rupture of the urethra forms one of the most dangerous complications. The degree of injury varies considerably, the urethra being in some cases completely torn across, where it is nipped between two fragments of bone, or it may be merely lacerated by isolated spicules broken off from the pubic arch. Strictures are produced by injuries of this nature in exactly the same way as in the preceding group.

The laceration of the urethra by foreign bodies, such as calculi, does not, as a rule, give rise to much stricturing, but if the foreign bodies become lodged, producing extensive ulcerations of the urethral wall, a stricture can be produced by the cicatrisation of this ulcer. False passages made by catheters do not necessarily lead to stenosis, although the presence, of a number of them, around the opening of a stricture, will tend to increase the amount of inflammatory material, and so exaggerate the preceding condition.

Post-Inflammatory Stricture.—By far the greatest number of strictures are of this kind, and practically all of them are due to repeated attacks of gonorrhœa. A very dense type of stricture is formed by the cicatrisation of a urethral chancre. A single attack very rarely leads to the formation of a stricture, unless it has been unusually severe, or has lasted a very long time. Some cases give a history of only one attack, but in these it will generally be found that, while there has been only one acute attack, there have been several slight increases in the discharge following succeeding infections. Apparently the patient has acquired a certain amount of immunity to the disease, and subsequent infections do not produce the same acute symptoms as the primary one. These infections, however, while they do not cause any acute disturbance, none the less keep up the urethral inflammation, and bring about stricture of the urethra. It is possible there are other factors beside the infective process in the causation of stricture. In some Mohammedan countries, at least, although gonorrhœa is even more common than in England, stricture is very rare. This may be due to the climatic differences, or to the fact that much less alcohol is drunk.

When the urethra of a patient, who has been subject to such repeated attacks of gonorrhœa, is examined by the urethroscope, an area of mucous membrane will be found deeply congested, and often sharply marked off from the normal mucous membrane. If the urethra is inflated, it will be quite easy to define this area, quite apart from the difference in colour. It does not dilate as readily, or to the same extent, as the normal portion. This indicates a certain amount of infiltration of the submucous tissues with the products of chronic inflammation, which by their contraction will produce a stricture. A more direct infection of the submucous tissue may be brought about by infection of the glands of Littre the infection being then conducted directly into the deeper tissues of the urethra.

Post-inflammatory stricture very rarely, if ever, occurs on the vesical side of the triangular ligament. Anteriorly to this, the urethra may be affected in any part, but there are two parts which are especially prone to stricture. From the triangular ligament to the meatus, the urethra does not form a straight tube, but there is, in the normal flaccid condition, an acute bend, where the suspensory ligament of the penis attaches this organ to the symphysis. This peno-scrotal fold forms a sort of watershed between the two portions of the urethra. It will be readily seen that any discharge in the part of the urethra, anterior to the peno-scrotal fold, will run out at the meatus, and the drainage thus established leads to the rapid recovery of the mucous membrane without deep infection. Gonorrhœa always commences as an anterior urethritis, spreading backwards as time goes on to the posterior urethra and to the bladder. It will be readily understood from a consideration of the above anatomical points that, if the disease remains limited to the anterior urethra, it is usually unimportant, and does not lead to stricture. As the disease spreads posteriorly, it reaches the peno-scrotal fold, and here there is a less efficient drainage, the two sides are closely pressed together, imprisoning the discharge, so that the disease is much more resistant. Behind the fold, the drainage is still less efficient, the discharge tending to run backwards, and to accumulate at the lower end of the bulbous portion, being prevented from passing backwards into the bladder by the tonic contraction of the compressor urethræ. The persistence of the inflammation in this part of the urethra explains the frequency with which strictures are found there.

When once the submucous tissue has become infected, and there has been the usual round-celled infiltration, the proces

usually goes on to the formation of fibrous tissue. The urethra seems to be one of those organs in which the absorption of fibrous tissue does not readily take place. While, in some parts of the body, the dense fibrous tissue in a scar tends to become softer as time goes on, in the urethra this process does not seem to take place, contraction going on steadily for many years. This is probably due to a certain extent to the continuance of the irritation, but there must also be some determining factor in the tissues themselves, which prevents the spontaneous resolution of the stricture. The personal equation may also be a factor which comes into play. In some patients, a scar, left by an aseptic operation, will, in a few weeks, be quite invisible, while in others an incision, which, when first healed, looked precisely similar, has become cheloidal, contracted, and puckered. Post-inflammatory strictures are usually single but it is by no means rare to find two of them in the same patient. More than two are uncommon, but strictures may be met with throughout the whole of the urethra.

According to their shape and extent, strictures have to be divided into several classes,—band stricture, ribbon strictures, and so on, but this classification is unimportant.

The untouched stricture usually consists of a simple zone of the urethra, a fifth to half an inch in length, lined by mucous membrane distinctly lighter in colour than the normal. Behind this the urethra is generally distinctly dilated, as a result of the increased pressure necessary to evacuate the bladder, and the distension may affect not only the urethra, but the bladder, ureters, and even the pelvis of the kidneys. Owing to attempts, either of the patient, or of the surgeon, to pass an instrument, the strictured zone becomes much more complicated in structure, bands of fibrous tissue extend from one side to the other, the lumen becomes tortuous, and there may be several openings in the face of the stricture leading to false passages. A case came under observation quite recently, in which the patient had attempted to pass the catheter with the stilet in situ, and projecting through the eye, with the result that there was an extensive laceration of the urethra, making it impossible to pass any instrument at all. Healing and subsequent contraction would be fairly certain to make such a stricture very complicated. The formation of false passages and tears around the original stricture not only deform the lumen of the urethra, but also, in their healing and subsequent contraction, lead to the formation of more and more dense fibrous tissue, so that the stricture ultimately becomes almost cartilaginous in hardness.

Congenital Stricture.—The urethra in the male is developed in three portions. The prostatic and membranous portions are developed from a part of the urinogenital duct. The penile portion, as far as the root of the glans penis, is formed by the apposition of the genital folds which grow up and meet in the middle line. The urethra, which is contained in the glans itself, is formed by the hollowing out of the column of epithelial cells. Complete absence of the urethra is extremely rare, being only found in association with the gravest defects of development, and the same may be said of those cases, in which the urethra is formed, but never becomes patent, persisting as a fibrous cord. A mild degree of this latter condition occurs, and is of some clinical importance. Stenosis of congenital origin may be found in any part of the urethra, either as an obliteration of the lumen for some distance, or as an incomplete membranous septum, stretching across the urethra. It is easy to see the cause of these, from the method of the development of the urethra.

In the glans, there is often a considerable amount of stenosis, produced by imperfect canalisation of the cord of cells. In some cases, this is complete, and the urethra, behind the obstruction, is found dilated into a cyst-like structure. In other cases, a membrane is left, which ruptures readily before birth, allowing the urine to escape. In a very large number of cases, the meatus is left extremely small, and these cases are of great practical importance. The symptoms presented are those usually associated with phimosis, and the child is accordingly circumcised. This operation does not relieve the child's dysuria, and it is only when the meatus is enlarged that relief is obtained. Torsion of the penis is a comparatively rare deformity, which gives rise to obstruction of urethra. Torsion to such an extreme degree is rare but torsion through 90 degrees is no means uncommon.

Stricture following the Operation of Prostatectomy.—While the majority of patients, who have been submitted to this operation, have no difficulty after the operation has been performed, a certain number of cases subsequently develop stricture. At the conclusion of the operation, the patient is left with a ragged cavity between the bladder and the torn ends of the urethra, at the upper portion of which the mucous membrane, which has been stripped off the projecting portion of the prostate, hangs as an irregular curtain around the edge of the raw rough cavity. In a favourable case, this mucous membrane covers in the whole of this raw surface, the extent of which is, of course, much diminished by its subsequent contraction, and, ultimately uniting with the mucous membrane of the urethra, produces a condition not far removed from the normal.

It occasionally happens, however, that this regular healing does not take place, and the mucous membrane forms a sort of valve across the opening of the urethra. This becomes

strengthened by the fibro cicatricial bands, and may form a very considerable resistance to the passage of urine. In some cases, it is possible to evacuate the bladder by means of a catheter, although the eye of the instrument could not be actually passed into the bladder, being caught by a fold of mucous membrane just behind the symphysis. In other cases, a true stricture, develops the scar produced at the neck of the bladder contracting, and forming an irregular channel, through which urine passes with difficulty, and which it is almost impossible to catheterise.—THE PRACTITIONER.

PRACTICAL POINTS IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE SKIN.*

BY L. DUNCAN BULKLEY, A.M,M.D., NEW YORK CITY,

Gentlemen—In the course of our clinical lectures and demonstrations of diseases of the skin during the past fall and winter I have many times called your attention to various practical points which experience had shown to be of importance in dealing with this class of affections. As many of these hints and suggestions have been given hurriedly and may have escaped you, I have thought it wise to gather some of them together into one lecture, and to endeavor to impress on you some of the elements which contribute to the successful management of many cases of this often troublesome class of diseases. If some thing which I say may seem to be homely and trite, I trust that this will be excused, for sometime the most important things are those which are very simple and most often overlooked.

First let me say a word in general in regard to Dermatology. While this has often been looked upon as an almost hopeless branch for the general practitioner to rightly grasp, it is really one of the most inviting and interesting of all the departments of medicine; it is also one of the most important to cultivate in the entire range of the healing art, and a perfect knowledge of it, in all its relations, will better prepare the practitioner for general usefulness than will that of any one other so-called specially. The habit of careful investigation and minute observation which is necessary in order to fully comprehend and to successfully treat diseases of the skin cannot fail to be of the very greatest possible service in everyday practice, while the satisfactory results which follow from an exactly proper treatment will not only strengthen faith in therapeutics, but will teach much in regard to its principles.

Diseases of the skin are too often thought of as something peculiar and quite different from diseases affecting other organs of the body; whereas they are governed by exactly the same pathological laws which operate elsewhere, and, indeed, the skin affords a most fertile field for pathological research which has also contributed much to our knowledge of medicine in general.

Diseases of the skin are also too often regarded as loathsome, and are popularly considered as being mostly contagious; whereas large statistics show that syphilis commonly gives only about ten per cent, and the parasitic diseases about the same proportion, or together all these contagious diseases form only about one-fifth of all cases.

Again, inasmuch as very few of the diseases belonging to dermatology endanger life, and because so many of these conditions seem to relate largely to the comfort or even pride of the patient, this department of medicine has not, in general, received as much consideration as its importance really warrants. It should be remembered, however, that not only does the physician seek to save life, but, as all know, a large share of the work of the medical man in every department of medicine actually does consist in ministering to the comfort of the patient, and in restoring human beings to as near a normal state as possible. And let me assure you from long observation that a serious disfigurement is with many persons more hard to bear than even severe pain.

But then, further, a trouble on the skin may often act as a most serious drawback in the way of securing the occupation necessary for support. A moment's thought will convince any one that even acne, if at all severe, might greatly handicap a person seeking very many lines of occupation: for, with two applicants possessing equal qualifications for a position, every one would naturally choose the person who had a clear, attractive complexion, in preference to one greatly disfigured with acne Even so relatively harmless a matter as a conspicuous and unslightly vascular nevus on the face would deter many a person from occupying a public position, and might hinder one from securing occupation; while the misery suffered by some females on account of a growth of superfluous hair on the face is often far greater than that caused by bodily ailment. Many more illustrations will arise to every one, of often more than inconvenience caused by skin lesions, and I will mention only one or two instances more. All will appreciate how eczema of the hands often seriously interferes with the occupation of laundresses, cooks, waitresses, and the others, and few would want to be served by a barber who had any manifestations of a skin disease. Even ringworm, which

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* Lecture delivered at the New York Skin and Cancer Hospital, March 27, 1907.

is often so slightly regarded by the general profession, can work havoc in an asylum or school, and by isolating children from school can seriously interfere with education.

My first practical suggestion, then, is that every practitioner should acquire the best possible acquaintance with the diagnosis and correct treatment of cutaneous manifestations; and as a corollary to this, that he should always pay the strictest attention to any abnormality of the skin, and seek to interpret and care for it rightly. Nothing which is of sufficient consequence to lead a patient to consult a physician should be too small or insignificant to induce the medical adviser to devote to it sufficient patient observation and thought to enable him to determine its true nature and bearing on the life, health, and happiness of the individual affected. All this may seem trite and out of place, but I am convinced that this caution is needed by many who are altogether too careless and superficial in regard to any trouble on the skin. A very interesting and profitable chapter could be written on the beginnings of diseases and how they can be checked; undoubtedly mulitudes of the lamentable cases of epithelioma would never have reached their often incurable state if proper attention had been given to their very early stages.

As correct diagnosis must lie at the bottom of all truly successful therapeutics, let us give a short time to this subject from its practical aspect; and you will pardon me if I seem to be somewhat dogmatic, for I know that you want me to give you the benefit of my personal experience.

Do not be too hasty in making a diagnosis. If one could realize and appreciate the patient investigation which is commonly practiced by a careful specialist in making a correct diagnosis, it would be readily understood how it is that those less acquainted with this branch cannot often, with certainly, determine the matter with a brief glance.

It is always well to endeavor to arrive at a definite diagnosis, which shall be committed to writing in connection with the history of the case. And here let me urge most strongly upon you the practice of careful note-taking, and also that of note-keeping, at each visit. For nearly forty years I have persistently made notes each time I saw a patient, before prescribing, entering also the prescription in connection with the symptoms present: and I can assure you that the practice is of the very greatest value, for it assists in crystallizing one's thought of a case, and is most serviceable as a guide for future treatment.

In connection with making an accurate diagnosis let me urge upon you the importance, and even the imperative necessity, of examining each and every portion of the affected surface, even if patients remonstrate and think it quite unnecessary. They will often insist that all the eruption is quite the small portion which they may first exhibit on an exposed surface, when on close inspection it will be found quite otherwise. Indeed, in many instances the diagnosis will be quite different from that which was first supposed from the sample presented for inspection; in certain cases it is quite impossible to decide absolutely on a diagnosis without a very careful examination of every lesion, and sometimes it is necessary to go over them more than once. It is often very desirable to examination also the entire surface of the body, the patient being stripped, in order that one may understand the proper relation of the lesions, and also appreciate the character of the unaffected skin. As an illustration of this I may remind you how often we have done this in the clinic, and how in scabies it is necessary to search every place where we know the lesions are apt to manifest themselves.

Let me also urge you always to seek for and determine, if possible, the primary lesions, or earliest manifestations of the disease on the skin, in every eruption, for from them you can best determine its true nature. This you have often seen me do in the clinic, and as a single illustration of its value I may remind you how difficult the diagnosis of lichen planus has sometimes been, until we found the characteristic purplish, shiny, flat papule, depressed in the center, perhaps on some distant part.

In this connection I wish further to impress upon you the value, and even the necessity, of using a good lens or magnifying glass in studying cutaneous diseases, as you have often seen me do. It is not because one cannot see well, but in some way the skin lesions appear differently, and are seen to stand out more clearly, when magnified. In earlier years I was somewhat skeptical about this, but during repeated visits to the clinics abroad I have so constantly seen the best men work in this way, and I have myself for many years found it of such inestimable advantage, that I cannot too strongly impress the matter upon you

But in making a diagnosis one cannot always trust simply to the impression which the actual condition of the skin makes on the mind, for you know that eruptions often resemble each other very closely; much aid in diagnosis may undoubtedly be obtained from a carefully-drawn-out history of the appearance and development of an eruption, which, however, is sometimes very difficult to obtain clearly from a patient.

There is also another method which you have seen me constantly employ, and that is the one of differential diagnosis. You remember that we have often had written

on the black board half a dozen or more diagnoses which have been suggested by those present for some particular case exhibited, many of which diagnoses were very well founded, as the eruption in a measure resembled each of them. Then you know how, by recalling this or that feature belonging to each of those eruptions mentioned, as perhaps present or absent, by a process of exclusion we have eliminated one disease after another, until we have found the one which answered all the requirements of the case before us. This process should be employed, mentally at least, in every case more or less, except perhaps the simplest; and I am confident that if this were more often resorted to dermatology would seem a more pleasant and attractive field of study and practice, and better success would follow in many cases. For this reason, in the last edition of my Manual of Diseases of the Skin, I added a separate "Diagnosis Index" in which reference was made, under each disease, to the other diseases of the skin which might be confounded with the one under consideration.

In making a diagnosis of a cutaneous disease the possibility of its being due to or influenced by syphilis should always be borne in mind, even in those who might not be suspected of any sexual transgression; for syphilis is no longer looked upon as wholly a venereal disease, and "syphilis in the innocent"* is now such a well-recognized fact that I need not dwell much upon it at this time, as I have so frequently demonstrated it in my clinical lectures. Therefore, in analysing a case, if the skin lesion at is all suggestive of syphilis the matter should be thoroughly investigated, and the question determined with certainty.

To properly appreciate and recognize diseases of the skin it is essential to have good light—a northern light is best—and artificial light should never be relied on in doubtful cases. I may also add that for parts which are ordinarily covered with clothing or dressings it is often desirable to expose them for a while to the action of the air, when their characteristics or peculiarities will sometimes become more apparent: for example, an early macular syphilide will commonly become more visible after the patient has been stripped for a few minutes.

Treatment.

Turning to treatment, let me give you some practical suggestions which occur to me from my daily contact with this class of disease, especially in private practice.

First let me remark that while a correct diagnosis is of prime importance, diseases of the skin are not to be treated wholly from this aspect, if one would obtain the best results. In my special lectures here last spring,* and in those of the year before, I have urged this matter so much that I hesitate to dwell on it now. But I so constantly see this done by others with bad results, that I cannot help again cautioning you against it. Time and again two or more patients presenting cutaneous affections with quite different names will receive much the same treatment, with advantage, and again two or more different patients, to whose skin lesions the same diagnosis is given, will receive quite dissimilar treatment, also with the best results.

Hence it follows that the patient is to be considered and treated quite as much as the diseased condition of the skin; for it must be remembered that the skin is only a part, and a very important part, of the general organism, and that its diseases are often dependent upon disorders of internal organs, as I have so often said.

Let me therefore urge you to approach most cases of skin diseases very carefully and seriously, and to endeavor to discover where the fault lies, and to rectify it; rather than to be content with giving this or that local treatment alone, whether it be one advised professionally, or possibly one presented by some clever, though impudent, advertising firm. I recognize, of course, that some affections of the skin are local in character, and removable by local measures; but even in many of these there will often be some underlying cause, predisposing the skin to take on morbid action, which medical acumen should discover and medical skill should overcome.

Let us consider than the general subject of treatment from the two aspects of (1) constitutional, and (2) local, and note some practical points related to each. We cannot, of course, in the time at our disposal enter fully into the treatment of particular diseases, although some will be mentioned for the purpose of illustrating the matter in hand.

Cutis sana in corpore sano is an equally true dictum with mens sana in corpore sano.

We all know how a clear, ruddy, immaculate skin is universally recognized as a sign of perfect health and vigor, and most people admit that a sallow, muddy skin, or one dry and harsh, is a sign of ill health; and yet frequently the physician looks only at the local manifestations of disease on the skin and seeks to remove them by outward applications alone, instead of seeking for the causes and endeavoring to remove them as well.

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* Bulkley: Syphilis in the Innocent. New York, 1894.

* Principles and Application of Local Treatment in Diseases of the Skin. Rebman & Co., New York.

Arsenic has, in some way, become so intimately associated with skin affections in the mind of the profession and laity that it would perhaps not surprise very many if they should know how continually the specialist finds that the only attempt at internal or general treatment which had been previously advised was a course of arsenic, and that for the most diverse cutaneous manifestations; but he might be somewhat surprised if he knew how little good had been effected thereby, and also how relatively seldom this course was pursued by the careful and skilled specialist. In my lectures year before last* I dwelt strongly on the internal relations of many diseases of the skin, and tried to show the various lines along which proper treatment should proceed, and will not enter into the matter largely now; but I must remind you of it as one of the most practical points which I can offer in regard to treatment.

Diet must be of importance in connection with many diseases of the skin, for we constantly witness its effects in certain conditions: thus, all are familiar with the outbreaks of urticaria after the ingestion of certain substances, and any one who watches patients with various eruptions for a long time will observe an aggravation after dietary indulgence, as, for instance, acne will often blossom out after the free use of nuts, pastry, sweets, etc.

Unfortunately definite and reliable observations have not accumulated in sufficient numbers to admit of positive statements in regard to the exact relation of diet to many cutaneous diseases, and time would not permit of my entering largely into this subject; therefore I must refer you to what I said in my former lectures. But I may here call your special attention to a few practical points of particular importance.

In some of the acute erythematous and bullous eruptions, and in acute and pretty general eczema, I have found the greatest advantage, indeed the gain is often marvelous, from a very great limitation of the diet, for a short time at least. In many of these cases I have had the patient take absolutely nothing for a few days except rice, bread and butter, and water at each meal; the rice I have boiled in water and steamed, so as to be dry and light, and eaten only with butter and salt, and not with milk and sugar.

This leads me to speak of milk, which I often find to be harmful, as ordinarily used, in many diseases of the skin. When taken by adults in connection with food it often induces a bilious state of the system, which greatly aggravates many skin conditions. This is especially true in acne, and in many a case I have found a greasy, muddy skin, with many large and small acne lesions, clear up quickly, with appropriate treatment, when the practice was discontinued; and in some instances, where the eruption has been rebellious and when I had not previously given specific directions in this matter, I found that patients were erring greatly in this respect, and rapid improvement followed its correct regulation.

I have so often gone over this subject publicly and in print that I will not dwell long on it now; but for those who are not familiar with the plan which I have long practiced, and which has received support and commendation from so many physicians, I will very briefly mention the main points involved.

In order to avoid the coagulation which necessarily takes place when milk meets the acid reaction of the stomach during digestion, I have it taken only during the alkaline tide, which, with healthy digestion, occurs generally about an hour before eating, or from three to four hours after eating an ordinary meal; when there is sluggish digestion and food or its remains linger in the stomach from meal to meal, the plan does not work, but generally with the aid of artificial digestives, and perhaps with a little alkalinization of the stomach with bicarbonate of soda, it can commonly be accomplished.

The plan, then, is to give milk alone, pure or diluted with boiling water, at the body temperature, just after the alkaline tide has set in, or during its continuance, and to avoid food or any substance which could call forth gastric secretion until after its absorption has been fully accomplished: this, as will be seen, is quite different from the ordinary plan of eating a cracker with it, or putting an egg or liquor in it, which quite frustrates the object to be accomplished, namely, the rapid absorption of the milk as such without its passing through the processes of caseation and ordinary digestion. Whatever the physiological explanation may be, from very long experience, in many hundreds of cases with most divers complaints, I can hardly express to you strongly enough the value of this method when it is intelligently and thoroughly carried out. Dozens or even hundreds of patients can testify to the supreme value of milk when thus correctly used.

Mention was also made a while ago of restricting many cases of cutaneous disease to a strictly vegetarian diet, and I wish to call your special attention to the great value of this plan in psoriasis. Some ten years ago I wrote on this subject, and since that time I have been able to watch a fairly large number of cases in which this plan has been instituted and carried out with more or less persistency, and I can say that I am more and more convinced of its value. I have seen a number of cases in which a return of the eruption was directly traceable to indulgence in meat, and I have seen many cases

* Bulkley: The Relations of Diseases of the Skin to Internal Disorders. Rebman & Co., New York, 1906.

some of them dating back for years remain free from eruption under an absolutely vegetarian diet.

Perhaps you know that this principle of living has obtained a strong hold in England, and in London there are very many restaurants where a purely vegetarian diet is furnished, and which are crowded with customers. Many of my patients express the greatest satisfaction with this mode of life, feeling better and even gaining good flesh, as shown by weight on the same scales at each visit. One need not wonder at this, for the herbiferous animals are among the strongest and healthiest, and in athletic contests in England, and also during the past year at Yale, it has been shown in every contest that the meat-eaters fall far behind the flesh-abstainers in every test of endurance. Under vegetarian diet I exclude even eggs and fish, giving only substances that grow from the ground, with the exception of butter; in many instances I have also excluded tea and coffee, and of course all fermented or spirituous drinks.

I need hardly mention to you that these latter two are harmful to most congestive or inflammatory diseases of the skin and it is a very practical point that this matter should always, be mentioned, if there is the slightest suspicion of its necessity. I have seen many cases of acne in middle life which resisted treatment as long as any form of spirituous drinks, even wine and beer, was indulged in, and the same is true in regared to certain cases of eczema. This is particularly true in syphilis and a Frenchman wrote a thesis some time ago in which he showed that many of the late and often ulcerative lesions of syphilis occurred mainly in those who indulged in any beverage containing alcohol. Every syphilite should be a total abstainer.

Sweets, you know, are largely contraindicated in many diseases of the skin, but let me make the practical suggestion that unless the physician keeps this matter constantly in view and under surveillance there will be errors which will pretty certainly hinder the progress of the case, as is constantly seen in acne, etc.

Coming now to the internal medicinal treatment of certain diseases of the skin, there are many practical points which it is well to bear in mind.

First, let me urge upon you the very great value of repeated and very careful and complete, even quantitative, analysis of the urine as an index of the manner in which metabolism is being carried on, which is often of such very great importance in relation to many cases presenting cutaneous eruptions. I do not refer to the discovery of albumin and casts or sugar in the urine, and you would be surprised to know how seldom these are found in my laboratory, in the urine of those coming for treatment; and yet many a physician in consultation will assure me that the urine is all right, simply because there is no albumin or sugar, when my analysis will yield points of the greatest practical importance in regard to the management of the case.

Do not forget the physiological relations of the blood and the urine, and how perfectly the latter portrays the condition of the arterial blood on its way to nourish the tissues. Remember that the current of arterial blood in the renal capillaries is separated by only a few layers of cells from the cavity of the secreting tubules of the kindey, and that the urinary secretion is more or less of a filtration, at least a separation, of elements which, after having passed the action of other vital organs, are seized upon by the kidneys to be removed from the body. Remember that the kidneys are the last court of appeal as to what should constitute good blood, and that they offer the final chance of removing substances which should not be in its current, in order that it may properly nourish the various structures of the body.

Viewed in this light the exact composition of the urinary secretion may often bear a very important relation to certain diseases of the skin. Not only its quantity and specific gravity and total excrementary solid constituents, but also its relative acidity, accurately measured from time to time, afford a most valuable indication in regard to the employment of various internal medicaments, and often explain many symptoms and the reasons for the ineffectiveness of certain remedies. Indican in the urine, in any quantity, is also often a very important element to recognize, as indicating intestinal fermentation and consequent autointoxication, which has much to do with many cutaneous manifestations. The relative output of urea is also of significance, as it has been shown that in certain diseases, notably dermatitis herpetiformis, a fresh outbreak of eruption followed many times in succession upon diminished excretion of urea.

All are, of course, familiar with the indications given by the presence of uric acid, urates, oxalates, and phosphates microscopically in the urine; but the volumetric analysis of the phosphates, chlorides, and sulphates, with their varying proportion, is also equally important in certain cases, as indicating the character of the blood stream, which certainly has much to do with the nutrition of the skin and other tissues, both in health and disease. There are other elements sometimes of importance in the urine, as an indication of the mode of performance of the metabolic processes in connection with certain diseases of the skin, which I cannot dwell on now. But I have said enough, I think, to show you that in certain of the more chronic and rebellious forms of diseases of the skin

this is a practical point indeed, and that close and frequent attention should be given to the urine as a constant aid to treatment.

As the condition of the urine largely depends upon the action, perfect or imperfect, of other organs or parts of the body concerned in metabolism, I wont to urge you to bear continually in mind the action of the liver and intestines in most patients with diseases of the skin. You would be surprised if you knew how many patients one sees in whom these matters have been entirely neglected by former physicians in charge, who have had regard mainly or almost exclusively to the local treatment of the lesions on the skin, while these functions were in a deplorable condition. The influence of modern medical teaching has been rather away from active interference in these matters, and patients are too often left to care for themselves in this respect, and naturally turn to the many quack and semiquack remedies so freely advertised or offered in the drug stores. You have so often seen the good effect of the blue mass, colocynth, and ipecac pill, of which I have frequently given the formula in the clinic, that I need not say much in regard to it now. But I will say that as a practical aid in handling hundreds of cases it has done me yeoman service, and I commend it most heartily to you. It is not an infrequent thing with me to give a course of two of these pills on alternate nights, on the same day of the weeks, even for weeks together, when patients are taking strong alterative tonics; and I am sure that I get very much better results in this way than when this matter is neglected.

Some of you who have attended the clinics in years past may have noticed how frequently I prescribe acetate of potassa, even in a number of quite different skin affections. And I wish as a practical point to advise you to make considerable use of it, for many years' experience has taught me that it is of the greatest value, and in the long run serves better as an antacid than anything else with which I am acquainted; and I have made more or less use of almost everything that has been well recommended. You have repeatedly seen how, when taken with nux vomica and the fluid extract of rumex root, perhaps with a little cascara, freely diluted, half an hour before meals, it has worked a radical change in many cases of congested acne, especially in acne rosacea. In eczema of psoriasis, lichen planus, and some other complaints I have commonly given it, with nux vomica and a better infusion, as quassia, after meals, with cooling effects: it certainly acts thus as a diuretic in a most efficient manner.

Time would fail if I attempted to go at all into detail regarding the internal medicinal treatment of individual diseases of the skin, but I have said enough to show you that I am a firm believer in the proper constitutional treatment of a large share of maladies which affect the skin; with, of course, and intelligent use of local measures, along the lines which I attempted to point out in my special lectures last year. I am certainly not a therapeutic nihilist, for I believe that with proper skill, assiduously and carefully applied, the vast majority of cutaneous diseases can be satisfactorily treated and cured although every one who has seen much of this branch of medicine must admit that many of them resist treatment in a most discouraging manner; but even in these cases, if the proper treatment is persisted in for a sufficient length of time the result is satisfactory.

As a single illustration of this I wish to recall to your memory the case of psoriasis, Rebekah, who was in the hospital several times, and whom I have shown in the clinic so frequently. I have more than once exhibited her as about the worst case, and most rebellious, that I had met with, and one year ago I brought her before you almost entirely covered with large red areas, in a condition which simulated pityriasis rubra: all the nails of the hands and feet were intensely affected, and she was in a pitiable and distressing condition. And yet, one week ago I presented her to you with a perfectly free skin, as delicate and fine as could be desired, without a trace of psoriasis, nor had she had any eruption for over six months. In her several previous stays at the hospital she had had almost every conceivable form of treatment, internal and external, and would at times go out almost well, but the psoriasis would return in a month or so. During the last stay in the hospital the eruption had resisted and had gotten worse under most varied treatment up to the time spoken of, a little over a year ago.

She was then put upon an absolutely vegetable diet, and was given strong nitric acid internally, four drops, well diluted, after each meal. The improvement was almost immediate, with no local treatment, except some emollient application, and within a month areas of sound skin appeared; and the improvement increased as the amount of nitric acid was increased, until in the summer she was taking ten drops of strong nitric acid, well diluted, three times daily, the vegetarian diet being strictly adhered to. In a very short time after beginning this treatment all local medication was omitted, nor has she had any external applications since; and as you saw last week, the skin of the entire body is as soft and perfect as could be desired. Nor do I expect a return of the trouble if she will continue treatment sufficiently long, for she has been absolutely free from eruption for fully six months; whereas here-

fofore it returned almost immediately after it was removed.

Now I cannot tell you exactly how this treatment operates, nor do I advise precisely the same in every case of psoriasis, although I have seen it thoroughly successful in a number of other cases. But I do insist on two things: First, that it demonstrates that psoriasis is not a local disease of the skin, but that it depends upon some as yet unknown constitutional state, probably one of suboxidation; and while local treatment may place the skin in such a condition as will resist its influences for a season, yet while the underlying cause remains it readily takes on the same pathological changes, probably from the action of some microorganism almost universally present, but as yet not determined. Secondly, inasmuch as the eruption will sometimes cease, even permanently, under other internal treatment or change of habits, mode of life, climate, etc., medical skill and knowledge should by patient search and endeavor find the error and rectify it. I cannot go into this subject more fully now, but must refer you to what I have elsewhere written in this connection.*

Before finishing this lecture with some practical suggestions in regard to local treatment, I would like to say a few words in regard to the treatment of syphilis which I consider of practical importance.

While syphilis is an infective disease, caused by a definite poison, it is well to remember that it is not self limited, as are most other infectious or contagious diseases, but that continuous or properly intermittent treatment should be pursued until such a time as experience has shown that the disease is fully eradicated. I cannot enlarge on this now, but I do want to impress upon you the great responsibility which a physician has when consulted by a patient with syphilis, both in the matter of guarding others against contagion and also in reference to the danger to the patient resulting from neglected syphilis attacking the arteries, the nerves, the eyes, and vital organs. Every one who sees much of syphilis meets with deplorable cases, in which the unnecessary damage already done could have been averted by timely and efficient treatment. I find that patients in private practice are keenly alive to this, and if the physician is frank and earnest and insistent, they will be proportionately obedient and faithful to treatment.

I am one of those who believe in the radical cure of syphilis, although I am not prepared to say absolutely how long specific treatment should be continued to effect this result. Fournier has lengthened the formerly accepted time of two years to from three to five years.

I want also to impress upon you the fact that although syphilis is a definite infective disease, there is very great difference in the individuals who are attacked, and in their power of resisting the effects of the poison. This may seem a trite and useless remark, but I so constantly see cases in which this principle or thought has seemed to have been ignored by those who had seen the patient previously that I cannot help mentioning it. While mercury and iodide of potassium are the remedies for syphilis and must be used sufficiently to eliminate the disease, the patient with syphilis may at one time or another require the most varied treatment to meet this or that condition of the system, which may at times interfere with the efficient action of the specific remedies; and the physician who is responsible for the course of the specific disease should see to it that the human frame in which the poison is operative is in the best condition possible to resist the effects of the syphilitic poison. Those who have attended these clinics know that as a rule, except in the earliest stages of the disease, I prefer a mixed treatment, in one solution, and, as I believe syphilis to be depressant and exhaustive, I commonly add iron and bitter tonics; and I feel confident from long experience that this brings better results than such treatment as is sometimes given.

Local treatment of diseases of the skin is, as you know, sometimes a perplexing problem; and to judge from the many patients I have seen who, by the advice of physicians, have been using some of the various "cure-alls" so urgently advertised and pushed before the profession and the public I should imagine that the ideas of many general practitioners were not very well crystallized or fixed on this subject. In my special lectures of last year* I entered so fully into the principles and application of local treatment in diseases of the skin that I hesitate now to dwell on the subject very much. But as mention of these matters may have slipped your attention I think I can with advantage refer to some of the most practical points in a brief way.

In endeavoring to benefit an eruption on the skin, I told you that one should seek to have a clear idea of what was to be accomplished, and I showed how unreasonable it was to suppose that any single remedy or combination of remedies could be "good for diseases of the skin," as the advertisements so impudently assert. There are many aims to be accomplished in different eruptions, and even in the same

* Journal of the American Medical Association, Nov. 17, 1906.

* Principles and Applications of Local Treatment in Diseases of the Skin. Rebman & Co., New York, 1907.

disease in its various stages; moreover, the skins of different patients often react very differently under the same local remedy.

In deciding on a local application, therefore, determine well what the condition of the part is, and what you wish to accomplish; for the remedial measure should vary greatly according to whether it is to be (1) protective, (2) soothing, (3) astringent (4) antipruritic, (5) emollient, (6) stimulant, (7) absorbent, (8) antiparasitic, or (9) destructive. Often several of these objects will be combined and the prescription varied accordingly. I cannot, of course, go over all these matters again at the present time, but I only want to emphasize the fact that the skin is an organ possessing in itself exceptional healing powers, as is seen in the case of wounds and surgery, and one which responds remarkably well to an appropriate dressing, while one that is ill-advised produces only harm.

Applications to the skin are made in the form mainly of powders, lotions, plasters, and ointments, and I would like to say a few words practically in regard to some of those combinations which you have seen used in the clinic, the formulæ for which appeared in my lectures of last year.

Powders have a very limited use, but at times are of service. Thus in herpes zoster the very greatest relief is given by dusting the surface thickly with a powder in which there is a little acetate of morphine, and binding the parts firmly with muslin, sewing it on if necessary; while an ointment will often cause an ulceration of the surface and much subsequent trouble. Slight papular eczema in an infant is often allayed by a mildly astringent powder better than by any other dressing. But, on the other hand, care must be exercised in attempting to check the intertrigo between folds of the skin with a powder, as this will often make a paste with the acrid discharge, and only increase the difficulty. Urticaria will often be greatly relieved by free dusting with a powder containing chloral and camphor well rubbed in.

Lotions have a wider range than powders, and form a valuable part of the dermatological armamentarium. You have constantly seen the beneficial effects of the calamine and zinc lotion, as it has been used in the clinic, in allaying erythematous and slightly eczematous conditions, and in those it is often far superior to any ointment. A more astringent application is found in the magnesia and zinc lotion, which is often peculiarly agreeable and effective about the anogenital region. You have also frequently observed the excellent results of the lotio alba in several forms of acne: this may be strengthened by the addition of a drachm or two of precipitated sulphur in the four ounces; where it is too drying, half a drachm of glycerin may be added. Ichthyol is also often of the greatest service in watery solution, ten to twenty-five per cent, bathed over pruritic surfaces and allowed to dry on; other lotions or an ointment may be applied over this with advantage.

Plasters have been strongly recommended by many, but I have not employed them as largely as some, although occasionally we find them of great service; they are not, as a rule, very applicable to any acute eruptions, but in some chronic lesions they are decidedly serviceable. Old patches of eczema or psoriasis sometimes yield excellently to a salicylic acid plaster, three to five per cent, or even stronger, as made by certain manufacturers. Old syphilitic lesions often yield better to the application of mercurial plaster than to any other means: this is also frequently of great value, in both lupus vulgaris and lupus erythematosus.

Ointments are of course, the most commonly employed form of application to diseased skin, and always will be our mainstay; but, as remarked before, they must be greatly varied to suit the case in hand. It must be remembered, however, that some skins do not bear fatty matters well, and also that the ointments furnished by all druggists are not uniformly satisfactory: frequently they are old, and they may become rancid. Moreover, the ingredients are not always perfectly mixed—I have frequently found them very gritty. I would advise you to look well into these matters, and to be sure that any application to the skin is most perfectly compounded.

I do not care to employ the ointments made with lard, as are most of those described in the Dispensatory, but invariably order them freshly compounded with good, sweet, rose ointment, or cold cream, the unguentum abuse rosæ of the Pharmacopœia, which in my experience forms the best application to the skin. Vaselin is not a satisfactory base for many ointments, even when stiffened with paraffin, wax, lanolin, or the spermaceti. Some skins will not tolerate vaselin at all, but when a soft, lubricant quality is desired, the albolene ointment answers very well. An exception in regard to vaselin is found in the so-called Lassar's paste with salicylic acid, which you have seen so frequently used with advantage in the clinic. Let me remind you of the value of the diachylan ointment, properly made according to the formula of Hebra, of which I have so often spoken.

Zinc ointment is certainly a valuable remedy, although as ordinarily furnished by the druggist it often proves anything but soothing. I never order simply zinc ointment, but always direct it to be freshly made, with cold cream, generally half a drachm to the ounce, to which I frequently add a scruple of

prepared calamine, and five or ten grains of carbolic acid.

This subject of the proper composition of ointments is a very large one, and I must not further dwell on it, as I presented the subject so fully in my lectures last spring. I want to mention a few practical points in regard to the mode of making applications and removing them, for in these matters often lies the secret of their successful use.

Most patients if given an ointment will simply rub a little of it on, and cover it more or less imperfectly with old linen or gauze, which soon absorbs the greasy element, and leaves the other ingredients pretty dry on the skin. Now in the large share of eruptions this is entirely wrong. If the eruption is at all acute, this will only irritate and inflame the surface I commonly have the proper ointment spread pretty thick ly on the wooly side of sheet lint, laid over the affected surface, and then kept in place by proper wrappings. Here let me remind you of what is known as the circular bandage, which is a broad, woven webbing of rubber, made into circles, like garters, which are sprung over the parts. For the treatment of eruptions on the arms or legs this is most excellent, and patients are delighted with the case with which they can thus carry out treatment; on the body or head this is rarely applicable, and great ingenuity will often be required to keep applications in proper position. Let me also remind you of the value of very thin layers of absorbent cotton as a covering on many parts of the body, as about the face, the feet and hands, and in the genital region: with a little care this can be spread with an ointment and applied closely to the affected parts, as I demonstrated in my second lecture last spring.

I want also to recall to you what I have so often said in the clinics, how continually patients err in not keeping a proper application upon a diseased surface for a sufficient part of the twenty-four hours. It is not enough that the parts should be well covered and protected at night, but with many eruptions we can get the best results only when the proper remedy is kept in contact with the diseased surface all the time. Sometimes on exposed portions of the body it will answer pretty well if after the application is made again thoroughly in the morning it is left on for a while only, and then, when the patient must be presentable, the ointment is gently wiped off, but not entirely; in this way a slight film is left on, which both protects the part from atmospheric influences and exercises somewhat of a healing effect. These may seem small matters to speak about, but attention to details has everything to do with success in dermatology, as in surgery and other branches of medicine.

The right and wrong use of water in connection with the skin in health and disease is also a matter in regard to which patients will often err unless correctly instructed. This is a large subject which cannot be discussed here, but I will briefly state the results of my observation and experience. While cleanliness is certainly desirable, I find many persons who carry the practice of washing and bathing to an injurious extent, and who freely acknowledge the benefit resulting from restrictions which I have placed upon the use of water externally. The skin has a natural oily secretion which is necessary for its integrity, and when this is too constantly removed its structure suffers. This is especially true when it is diseased: many and many a time have I found cutaneous lesions irritated and the disease kept up by washing. I know that this is contrary to what is stated by some others and in text-books, but as I have often remarked to you, I have also the authority of Hebra, who toward the end of his life wrote very strongly on the subject of the abuse of water.

I cannot close this simple and homely talk on some practical points in local treatment without reminding you again of the immense value of the solid rubber bandage in connection with affections of the lower extremities. I will not enlarge on this subject now, as I presented it so fully last year, but only remind you of the many cases in which some of you have seen it applied here during past years, and how easily and agreeably it takes the place of other local treatment, during the daytime, effecting that which no other measures can accomplish.

In conclusion I want to call your serious attention to the very wide field in medical thought which may be embraced under the head of Dermatology. Diseases on the skin may be the sign of systemic infection, as in the case of the exanthemata, syphilis, leprosy, etc. Again, they may be the sign of active autoinfection, as in urticaria, severe erythema multiforme, and some others; with lesser disturbance of the metabolic processes of the system we have such affections as eczema, acne, probably psoriasis, and many of the congestive eruptions; then, as I showed in my lectures two years ago, we have many, and often intimate, connections between certain cutaneous affections and disorders of the nervous system, circulatory system, sexual system, etc. All these considerations justify the remark I have often made, that to be a good dermatologist one must be a good, all-around physician, ever on the alert to recognize and properly care for the systemic derangements which are so commonly at the bottom of many skin affections.

When we consider local treatment, one sees that there is necessity of being equally alert and observing, quick to recog-

nize and judge of the requirements of the case, and ready to adapt surgical principles to the condition present, In a word, to properly treat diseases of the skin one must be careful and accurate in observation and analysis in order to make an accurate diagnosis, and thoughtful and resourceful in order to recognize and meet the possible requirements in internal and local treatment. All this is quite different from the hasty and careless way in which cutaneous disorders are occasionally dismissed with Fowler's solution and the local application most recently presented in medical literature or by advertisement.—THE THERAPEUTIC GAZETTE.

WHEN TO OPERATE IN APPENDICITIS.*

BY H. B. HILL, M.D.

Although there has been such a vast amount of literature written on this subject, it is still not a settled question. Even among the matters of surgical science there is considerable divergence of views. Some say operate as soon as a diagnosis is made unless the patient is moribund, no matter at what stage of the disease it may be. Others advise operating if the patient is growing worse, waiting if he is getting better. Still others advise immediate operation if the diagnosis is made in the first thirty-six hours. If seen for the first time later than the second day, then wait and try to carry the patient through the attack, to be operated on during the interval. There are few who advocate treating all cases medicinally.

With such a wide variance in the advice of high authorities, the practitioner of more limited experience is frequently at a loss te decide what course to pursue, and either follows the plan laid down by his favorite text-book or else procrastinates until the golden time, i. e., the first thirty-six hours, is past.

To enable us to throw some light on this subject I will quote some statistics showing the results of operations at various periods. Fowler, quoted by Hare, has shown that of cases operated upon in the first forty-eight hours, 83 per cent recover; on the fourth day, 60 per cent; the fifth or sixth day, 58 per cent; the seventh or eighth day, 50 per cent; the ninth or tenth day, only 33 per cent. Statistics derived from various other sources show that cases operated upon the first twenty-four hours have a mortality of only about 1 per cent. Coley in 1899 recorded 98 medical cases with 3 deaths, and 102 cases operated upon with 22 deaths. Such figures are, however, not conclusive, for it is probable that many of the cases operated upon had been treated medicinally until they grew so bad that operation was performed as a dernier resort. Hare says that a series of mild catarrhal cases will give a recovery percentage of 100; whereas, a series of severe gangrenous cases will give a mortality of 100 per cent. The statistics of the best operators in unselected acute cases is about 18 or 20 per cent mortality, and in the interval cases vary from one-fifth of 1 per cent to 1 per cent.

Oschner laid down the rule that if a competent surgeon was obtainable all cases should be operated upon in the first thirty-six hours. After that time had elapsed, it was safer for the patient to practice gastric lavage, total abstinence of feeding by the mouth, also giving no purgatives, no food except by the rectum. He claimed by his method 90 per cent of even severe cases could be carried through an attack to be later operated upon during the interval. His views have been severely attacked by some high authorities, but I think they offer the best solution for those cases that refuse operation altogether, and those cases not be seen or diagnosed until late in the attack.

Here, viewing the cases from the medical standpoint, advises absolute rest in bed, no purgatives, no food or drink by the mouth, no pain relieving medicines, except a very little morphin hypodermically, if pain is excessive—not enough to completely abolish pain. If symptoms are not rapidly subsiding at the end of thirty-six hours, then operate at once.

Murphy says operate in all cases before the fourth day, preferably in the first twelve or twenty-four hours. After fourth day operate unless case is clearly subsiding.

Roswell Park says "when in doubt operate."

Robert T. Morris says "prompt operation nearly always when practical"

Since my quotation of Murphy in the previous pages of this paper I have had an opportunity to see later views from him, in which he clearly announces the opinion that all cases should be operated upon as soon as diagnosed, but he also strongly emphasizes the importance of securing an operation within the first forty-eight hours.

My experience is perhaps not wide enough to give my individual views much value, but after much study of both the literature and cases at the bedside, I have come to the following conclusions, which will be illustrated by the history of three selected cases:

First—All cases should, if possible, be operated upon in the first twenty-four or forty-eight hours.

Second—Cases seen later, or from any cause not operated upon earlier, if not of very severe type, might be safely operated upon several days later. Those of more severe character

that are not relieved by the Oschner treatment, after being tested twenty-four or thirty-six hours, should be given the benefit of an operation, for it is better to say "that he died in spite of the operation" than "that he might have been saved by an operation."

Third—I advise all of may patients that have gone through a distinct attack of appendicitis without having been operated upon to have it done within a short time after recovery; and also say to them should they neglect to have it done in the interval, by all means be operated upon during the first thirty-six hours of the next attack.

I will now report three cases bearing on the views above given:

Case 1.—I was called on Tuesday, June 6, 1905, 8 p. m., to see a young man who gave the following history: Was taken with violent abdominal pains on the Sunday morning previous, for which he had taken various domestic remedies, such as ginger, paregoric, salts and castor oil, without relief. At the time I saw him be had intense pain in umbilical region, vomiting had occurred several times, but was not then present. Temperature 103. Very decided tenderness in region of gall-bladder, but not at McBurney's point. I suspected appendicitis. but could not make a positive diagnosis on account of absence of tenderness on pressure at the usual site. Being strongly impressed with the value of the Oschner treatment, and fifty-eight hours having elapsed since the earliest symptoms, I advised abstinence from food and purgatives, gave some anodyne medicine, which did not relieve, and when I saw him again next morning he had developed very acute pain and tenderness at the usual location of the appendix. The suffering was so great that I felt compelled to give a hypodermic, which gave some relief until 4 p.m., when he suddenly felt a violent pain in right groin running up to appendix, quickly followed by chilly sensations, and a temperature of 105⅗. Extreme pain and general abdominal rigidity continued until relieved by a full hypodermic.

Diagnosis.—Perforated appendix. His condition gradually improved for thirty-three hours afterward, when suddenly there occurred a second septic explosion, similar to the first, and probably due to the giving away of adhesions and liberating additional septic material in peritoneal cavity. He sank rapidly and died about twelve hours later. This case had perforation in twenty hours after I first saw him, and a little over three days after the first symptoms. Had he been operated upon when first seen, or even the next morning, his life might have been possibily saved. However, I treated him according to the dictates of my best judgment at the time. This case gave a history of previous attack.

Case 2.—Merchant, 43 years old, of low heavy build. I saw him eighteen hours after earliest symptoms. Pain, vomiting, temperature 101, and well marked tenderness at McBurney's point. Advised an early operation and suggested consultation, as his brother opposed operation, and advised starvation and ice bag. As I adhered to my first advice, the family decided to call in another consultant, who saw him eight houre later. Symptoms slightly better, but otherwise about the same. Consultant advised immediate ope ation, which was finally accepted and done twenty-eight hours after the very earliest symptom. Notwithstanding this short time, we found firm adhesions, the appendix gangrenous, and in another twenty-four hours would probably have resulted in a fatal general peritonitis. As it was, we found it necessary to institute drainage, and the patient had fever for sixteen days, but finally made a good recovery. I exhibit here this appendix so that you may see how early gangrene may appear after the first appreciable symptoms.

Case 3.—This case was first seen by another physician who diagosed it as the passage of a renal calculus through the right ureter on the second day of the attack, who gave a hypodermic and prescribed otherwise. Only temporary relief followed, and the physician was called for several times in the three following days, but failed to come. Late on the fifth day I was summoned and found temperature 103½, pain, vomiting, and great tenderness and pain on pressure over appendix, but no history of urinary symptoms. I requested that the first physician be again summoned, but patient declined to do so. I advised Oschner treatment and returned to my office for a stomach tube, where I found my friend Stroburg, and requested him to see the case with me. He agreed with me that the case was appendicitis, but, all though formerly an assistant of Oschner, strongly advised operation, which we did the next morning. Found the appendix surrounded by pretty firm adhesions, but no gangrene. Temperature never above 100 after operation, and rapid recovery. This patient gave a history of a previous attack exactly similar, also diagnosed passage of calculus. This case illustrates the safety with which an operation may be done, in some instances, as late as the sixth day, in what are known as catarrhal cases. On the other hand, Case 1 did not live until the sixth day, and Case 2, although the constitutional and local symptoms were not as sever as Case 3, on opening the abdomen the appendix was found gangrenous and he would probably not have survived forty-eight hours longer.—The Texas Medical News.

A Mirror of Practice.

THE TREATMENT OF FRACTURES BY MASSAGE AND EARLY MOBILISATION.

Lucas-Championniere recently gave an exhaustive lecture on this important subject at the Hotel-Dieu, at which hospital he is surgeon. He claims that "movement is a condition fundamental and necessary for the life and solid repair of the bone. Immobilisation is harmful to the regular development of the callus of fractures." It is well known that, after a fracture, the limb remains for a very considerable length of time weak, and that the joints become stiff. These effects are due to the fact that muscles at rest become atrophied (disuse atrophy), also to the cicatricial adhesions, which form between the divided structures; and also to the contraction of the ligaments, which belong to the joints in the immediate neighbourhood. It was has been found that these disabilities increase in proportion to the length of time that the limb has been kept absolutely immobilised. The main object of early massage is to prevent these disabilities occurring. If a fracture followed by displacement, takes place in the shaft of a long bone, the parts must be immobilised by means of suitable splints, either of wood, leather which may be softened first by immersion in the hot water to which a little acetic acid has been added, or paroplastic, which may be readily softened by immersion in hot water. This immobilisation must be kept up for a sufficient time in order to prevent a reccurrence of the displacement, then early massage is commenced. The clinical conception, which Lucas-Championniere has formed in the course of a life, full of observations and experiences, has just received absolutely scientific confirmation by the recent experiments and histological observations of Cornil and Coudray. Lucas-Championniere has carried out his method now for just twenty-five years on hundreds of cases, and he formulates these principles:—1. That movement is necessary to the vitality, the repair, and the firmness of the bone. 2. That massage, performed in a particular way constitutes a special kind of graduated movement, and plays a leading part in the therapeusis of fractures. The massage employed (effleurage) is very gentle, and is never performed at the actual seat of fracture, but around it, and always in the same direction as the venous current. 3. In no circumstances should the massage, or movements produced, cause any pain. The first effect of massage and movements is to cause the pain in the neighbourhood of the fracture to disappear, and, about the same time, the contractions of the muscles around the seat of fracture disappear too. 4. Repair of the injury always takes place more quickly, the extravasated blood is much more rapidly absorbed, the vitality of the skin is maintained, and its functions are preserved.

Supporters of the treatment of fractures by complete immobilisation allege that it is the only condition, which allows of proper rectification, and return to normal shape of the fractured limb, which are indispensable to the perfect function of the limb. Lucas-Championniere states that this is not quite correct. Some deformities are compatible with a proper physiolgical function. A limb shortened, but not out of its proper axis, a limb the articulations of which are supple, and whose muscles are not in any way atrophied, is quickly adapted to a satisfactory function, and may be even more useful than one in which the shape is absolutely correct. The muscles, however, are weak and there are adhesions in the joints. On the other hand, there are occasionally slight deformities, persisting after immobilisation, such as displacements of the axis of a limb, and deviation of the foot which will hinder walking. With a very small amount of angular deformity of the bones of the arm or forearm, function may be absolutely lost. Radiography, too, shows that, in many cases, immobilisation has not produced that complete apposition of the fragments of the fractured bone which it was thought to have done It is a well-known fact that repair takes place quickly in fractured ribs, which can never be completely immobilised. The advantages, then, which are claimed for massage and early mobilisation in the treatment of fractures, are that there is sound repair with a short period of treatment, that the pain is quickly removed, that muscular contraction disappear early, that there is not the same tendency for adhesions to occur in the neighbouring joints, and, finally, that the muscles do not undergo disuse atrophy. Lucas-Championniere states that some of his last results of this treatment have been obtained in fracture of the olecranon process, which, he states, he has never had occasion to wire; although on the other hand, for obvious reasons, he advocates early wiring of the patella, when it is fractured transversely. Some surgeons advocate the ambulatory treatment of fractures of the lower extremity, which is a method by which the patient has immediate and continued use of the injured limb as a means of locomotion. A plaster-of Paris splint is applied to the fractured limb, and the first attempt at walking is made during the next few days following the application of the cast. A crutch and stick are used at first, later two sticks are employed, occasionally some patients walk without any support at all. The method is applied mainly to fractures in the neighbourhood of the malleoli, the leg, and the lower end of the femur. Scudder, in his book on the treatment of fractures, states that the advantages

claimed for the ambulatory method of treatment are that the time of the patient is saved, that the general health is conserved, and that there is greater general comfort to the patient. In drunkards, the liability to delirium tremens is diminished, and in old persons, the danger of hypostatic pneumonia is lessened, there is less atrophy of the muscles and the amount of callus is diminished. There is less stiffness of the neighbouring joints, and union occurs at an earlier date. The method itself, in general, seems somewhat unsurgical, for, after all, rest and muscular relaxation are desirable, while the reparative process is in progress. The ambulatory method of treatment is well known in the case of fracture of the shaft of the femur, by the use of a hip splint, assisted by a splint of plaster-of-Paris the patient being allowed to get about on crutches. The method of treatment, advocated by Lucas-Championniere, seems, however, to be intermediate between the older method of treatment by complete immobilisation, and long rest in bed and the method included under the title, the ambulatory method.

Annotations.

TEMPERATURE OF THE SICK ROOM.

A thermometer is the only safe guide. It should be hung against the wall near the bed, and the record frequently noted. The temperature should be kept as nearly as possible at 60 degrees F., and on no account should it be allowed to descend below 50 degrees. It should also be remembered that infants and old people require more warmth than adults. In throat and lung complaints, such as croup and bronchitis, as high a temperature as 70 degrees may have to be maintained. The moisture of the atmosphere can be regulated to a certain extent when desirable by a steam kettle, or by the evaporation of water placed in open dishes.

A PUTRID FISH DIET.

The people who live in the Barotse country, develop the muscles of their arms, chests, and backs to an abnormal degree, but they seem to be able to use their strength for nothing but canoeing. The Barotse are great fishermen, using all manner of nets, traps, and assegais for catching their fish. They seem, however, to prefer fish other than fresh. Sometimes they kipper their catch, and occasionally they are fit for food and untainted, but more often remind one of "Cape Snoek." But their great delight seems to be fish they find floating in the water, caught, killed, and half eaten by a fish-eagle. These fish have been killed probably three or four days, and are usually putrid when found. In this condition the Barotse eat them with evident satisfaction. The great number of lepers found on the river can probably be traced to this filthy practice.

SUDDEN RESTORATION OF SPEECH.

A child who had for some years been speechless from what appeared to be paralysis of the vocal cords had been under treatment at an institution for deaf mutes in the hope that something might be done to restore her lost faculty. The physicians had failed to produce any effect and the little one was to be sent home as incurable. The children who were recovering their powers of speech were singing a favourite and inspiring hymn, when the child, without the slightest warning, joined in the chorus, and sang heartily and with tolerable enunciation. Later she pronounced several words and spoke with tolerable ease. The doctors are somewhat puzzled, and can give no satisfactory explanation of the curious circumstance.

DANGER ARISING FROM THE STING OF A BEE.

The tuneful and pestiferous insect, the mosquitoe is not the only pest having elements dangerous to our peace and comfort. Witness the "busy bee," the scorpion, and the blood-sucking bed-bug. All are enemies to man, in a small way, destroy his rest at night and make him a combative animal.

M. Phisalix, a distinguished chemist, has made a discovery about the nature of bee stings that is quite a revelation, and, considering that bees have been carefully studied for thousands of years by the most famous naturalist-philosophers, from Solomon and Aristotle onwards, this is specially interesting. Hitherto the generally accepted theory about the sting of the queen bee has been :—

1. That it has been given her to protect her hard earned steres of honey from marauding insects, etc.

2. That the darts work independently and alternately, and are connected at the base with the poison sac, without whose powerful contents such a tiny weapon would be wholly ineffective.

3. That the poison glands pour an acid secretion (largely formic acid) into this sac, whence it is conveyed to the tip of the sting along the groove or canal formed by the junction of the sheath and the darts.

4. That the formic acid is known to have considerable antiseptic properties.

5. That it is found present in well-preserved honey, but not in freshly gathered nectar.

6. That it has been added by the bees to assist in the preservation of the honey, but how that is accomplished has not yet been demonstrated.

In Pulmonary Consumption.

Dr. John's CONSUMPTION INHALATION. The Faculty pronounce it the only Cure for Consumption and all Throat and Lung Troubles.

Recommended as a certain remedy in the first and second stages. Is based on scientific reasoning and principles, and is an embodiment of the results of the investigations of Koch Luton and Pasteur, and all the great germ specialists, who have declared that the consumptive germ cannot live a minute in the presence of the ingredients of this wonderful compound. Write to-day. It is a sure cure. The first week's treatment will do more good than all the medicines, Cod Liver Oils, of changes of climate. Don't delay. There is not an hour to lose in cases of Consumption, or any throat or lung trouble. Even in the most advanced and hopeless cases of Tuberculosis and Consumption life is prolonged. Per phial Rs. 4. Packing and Postage 4 As.—Per dozen, Rs. 44.

Dr. T. Foster, A.M., M.D., says :—says I can recommend it with every confidence. It is the very best treatment; simple and effective. Dr. L. Paul, M.D., says : It never failed to cure almost every case. Relief was certain.

Avoid imitations: Only from Ellwood, & Co., Globe Chemical Works, Calcutta.

The Indian Lancet.

CALCUTTA : MONDAY FEB. 24th, 1908.

THE EFFICACY OF HYGIENE IN CONTAGIOUS DISEASES.

The co-operative effects of fermentation, putrescence or decomposition may quicken the activity or facilitate the development of specific morbid poisons in the way of predisposing cause to their production and an epidemic may be the result.

In order to make the sanitary precautions thus rendered advisable clearly understood, it should be explained in the first place that the germ theory of disease professes to account for the phenomena of small-pox, typhoid fever, yellow fever, relapsing fever, scarlatina, diphtheria, erysipelas, etc., by attributing them to the more or less mechanical irritation, obstruction and other disturbances set up by masses of spores and mycelial threads developing in the blood and in the affected tissues.

The period of incubation is supposed to correspond with that required for germination of these spores. The gradual increment of the symptoms is attributed to the progressive growth of the millions of minute fungoid plants, whose period of greatest luxuriance marks the acme of the attack, and the death and destruction of which correspond to the decline of the disease. The contagiousness of the communicable maladies is accounted for by the existence of the immense number of spores forming the true seeds of disease constantly produced, evolved from the affected individual and carried through the air of a room or house either alone or attached to some of the innumerable epithelial cells, which are being rubbed off by millions from the surface of human bodies.

Hence, according to this doctrine, contagious diseases are conveyed from one person to another by the transplanting of microscopically visible spores or seeds which have a separate vitality of their own, each after its kind, and which are to be escaped just as one would escape hordes of animals or swarms of insect pests by shutting them out or killing them before they can succeed in fastening upon human bodies.

The contagion of small-pox, scarlet fever, typhoid fever, yellow fever, measles, diphtheria, cholera, and so on, is composed of exceedingly minute spores or seeds so small that the 25,000 of them placed end to end would measure less than one inch in length. Each one of these 25,000 seeds is capable, under favorable circumstances, of reproducing its kind with almost inconceivable rapidity; so that supposing, for example, the zygodesmus is really the morbific agent causing diphtheria, a particle of the grayish, false membrane of the size of the dot just mentioned, would contain separate seeds enough to infest every inhabitant with diphtheria.

The recommendation therefore, is that every effort should be made, first, to prevent these morbific germs from being let loose upon the world, and second, when they have made their escape into the free air or water, to destroy all spores likely to come in contact with unprotected persons. . . . In all instances of contagious diseases isolation, carried out with every due consideration and kindness is therefore to be practised, and under other conditions means which will destroy the life of the spores such as dry heat of high degree, super-heated steam, prolonged boiling in water, caustic acids or alkalies are to be used with a firm confidence that if they are employed thoroughly enough they will absolutely put a stop to all spread of the disease. Avoid at any cost the entrance into the communities of living spores or seeds of disease. And this should be insured, not as in former times, with mere hope that somehow we might escape the visitation, but with the absolute certainty that, with proper care, infection cannot occur. With absolute cleanliness, with isolation, with the introduction of pure air into the apartments and with proper disinfectants, we have the best safeguards against epidemics.

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A GONOCCCCIDE AND URINARY ANTISEPTIC
AN ADVANCED AND CLEANLY METHOD OF
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URINARY ANTISEPTIC IS
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for gonorrhoea, gleet and all conditions of the urinary tract requiring an antiseptic diuretic.

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Current Medical News

PLAGUE IN CALCUTTA.

The report on Plague in Calcutta for the year ending June 30, 1907 makes highly interesting reading. The report is the work of Dr. W. C. Hossack as Dr. T. F. Pearse, the Special Health Officer, went on leave at the begnning of July. Dr. Hossack writes :—

We commenced the year on July 1st, 1906, and the six month from that date up to 31st December is considered the "Quiescent" period. The plague mortality during this time was at a minimum and averaged about 10.2 a week, but it is worth nothing that the fluctuations above and below the average were small and that plague was never absent from the city for a single week.

The case mortality works out at a very high rate, viz., 98·1 per cent.; the low percentage of bubonic cases 13·6 per cent., and the very high proportion of septic cases 80·8 per cent. are also very striking.

The second half of the year, viz., from the 1st January to the 30th June, 1907, covered the period of recrudescence. This presented no unusual features except that, like the outbreak of last year, it was delayed, and though there were unmistakable signs of increase in January and February, it was not until the middle of March that the usual sudden rise in mortality declared itself. From the latter date onward the rapid spread of the disease in the northern half of the city caused the weekly bills of mortality to exceed those of 1906, and the maximum period of mortality fluctuated for two or three weeks, thus extending the outbreak still later in the season. The maximum was reached only in the 17th week of the year instead of the 13th or 14th week as has hitherto been the case.

The decline followed the usual course. Though attended with a mortality about 50 cent. greater than that of last year, this recrudescence was not severe, and with the exception of that of 1906, was less intense than any previous out-break since 1900. It must not be forgotten that plague has been worse throughout the whole of India this season, and Bengal has suffered like other places. We have noticed that severity has fluctuated by alternate years in Calcutta, and a more virulent and extended outbreak than that of last year was anticipated. It will be noted that compared with Bengal, the United Provinces and the Punjab, Calcutta has had an especially light visitation. This is best realised when the figures of incidence of plague cases per infected house are referred to ; 99·6 per cent., of all infected houses show only one case, and the average number of cases per infected house is only 1·11. The fact that 71·5 per cent. of all cases occurred in kutcha houses is also notable.

Local Incidence.

The most noteworthy point in this it that Wards V and VII have lost the marked pre-eminence in plague figures that used to be their unfortunate lot. At will be seen in Table C, this is the first year that Ward V has not taken the lead both in the total and relative number of plague cases ; this year it is only 3rd on the list, while Ward VII, which used to be next worst, is only 5th. In 1900 those two wards accounted for 27 per cent. of the total plague of the city, whereas this year they account for only 14 per cent. There can be little doubt but that one of the main causes for this improvement is the amount of attention that has been devoted to the sanitary improvement of these two most important wards. All the bad bustee centers have been cleared out and many of the old and insanitary masonry houses have been opened up, remodelled, repaired and put in a proper sanitary condition. Taking the average for the last eight years, these wards show the following excessive ratio of plague cases to the total population 1 in 47 and 1 in 64 ; whereas this year, the ratio has dropped to 1 in 143 and 1 in 140, vide Tables H. and J. Ward II is another that shows a noticeable improvement which Dr. Crake is inclined to ascribe to rat destruction. The rate of attack in this ward has dropped from 1 in 88 to 1 in 324. In a latter section I shall discuss whether this is more than a mere coincidence.

Inoculation.

At first sight the figures with their great improvement on last year indicate that this measure is at last commencing to emerge from the shadow of disfavour under which it has languished so long. An increase from 101 inoculations to 3,122 might very well be taken as an indication that some of the educated at least are begnning to realize the benefits of plague prophylaxis and its absolute safety. It is not so unfortunately. It is true that a few Europeans and one or two educated Bengalis have had themselves and their families inoculated, but with these extremely rare exceptions the whole of the inoclutions were done on people attracted by the reward of As. 8 : beggars, drunkards, victims of the opium, hasheesh or cocaine habit—the dregs of the streets. Great care had to be taken as the same persons presented themselves for inoculation two or three times within the same month. Many of them probably did a round of the different districts and were inoculated several times. In spite of the miserable physique and condition of many of those operated on, there were no untoward results in the shape of abscesses or inflammatory conditions of any kind. The re-action was good but moderate, both local and general. Only one case of plague in an inoculated person has been found, the case of a beggar, who had been inoculated three times within a short period. It was impossible to verify this from the registers, as nearly all the names in them are false, but from personal inquiry I satisfied myself that he had been inoculated certainly once by myself and probably twice by Dr. Crake.

Rat-Killing.

During the year 122,090 rats were killed; the number may seem large, but I doubt whether it has at all materially affected the rat population of the city, particularly when we have the knowledge that Kitisato reports that in Tokyo, after the destruction of 4,000,000 in three years the result has been disappointing. The most striking point about the figures for the different districts is the great predominance of District I, its figures of destruction being more than double those of all the rest of the city. The explanation is that the northern district of the city is the district in which the chief grain centers are situated. Many of the grain-men or dal-wallahs have found rat collecting sufficiently paying to take it up as a regular calling. In other parts of the city the rats are too scattered to make it worth while collecting them, and the class of professional catchers has not developed. In the European part of the town where active measures are taken by private individuals and carefully kept up, there is some diminution in the rat supply. I may cite the instance of two big livery stables which used to swamp with rats, but since repairs were carried out and a man kept especially to set traps and poison, to stop up holes and lay down tar and sulphuric acid, rats are rarely seen and only very few can be captured. On the other hand, in the stables and out-houses of 47, Park Street, the house in which I live, in spite of a thorough overhauling of all the drains and floors and the periodical use of poison, rat traps, application of tar and sulphuric acid to all new holes, fumigation with sulphur of the runs applied during the period of three years, rats are still to be found, though less abundantly than before.

Where simple trapping alone is resorted to without general measures, it is possible apparently to trap daily or almost daily six to ten rats for months at a time without affecting the source of supply. I refer particularly to a native flour mill with surrounding huts which came under my observation, and to the fact that nearly all the rats brought in in District are brought from three large bustees, the supply from which is apparently unlimited.

The result of our efforts is rather educative than practical; the attention of people is directed to the importance of rat destruction, and perhaps in the future a time will come when each house-holder will look after the rats on his own house. As suggested last year, the first step will be to insist that all grain godowns should be rat-proof. It should be possible to legislate for Calcutta in such a way as to cause little if any hardship; the law could be framed so as not to include the petty traders. As a matter of fact, some of the most recently erected dal godowns have, as the result of Dr. Crake's persuasions, been built pucca and rat-proof.

The Rat and Flea Theories.

The second part of the report deals with research work and as Dr. Hossack himself says, the conclusions are somewhat at present held in India. The reasons for these conclusions are given at too great a length for quotation here, but we quote the conclusions themselves which are as follows:—

(1) It seems probable that plague cannot be transmitted from rat to rat in the presence of a small number of fleas. Evidence is required on the point.

(2) There is at present no satisfactory direct evidence that men are sufficiently frequently bitten by rat fleas to account for the numbers who die of plague.

(3) While the fact of plague transference from rat to rat by the flea has been established beyond a doubt the mechanism suggested is not satisfactory and when applied to transference from rat to man is wholly unsatisfactory.

(4) The evidence is so very contradictory that it seems probable that there are many modes of plague infection and, in the present state of our knowledge, to limit modes of infection to the bite of Pulex cheopis is unsound.

(To be Continued.)

SHORT ITEMS.

As was to be expected, there was a slight rise in the plague mortality in Bombay city during the week which has just ended. The number of deaths was 35 against 29 in the previous week. This is a considerable improvement on last year and as nothing compared with the average for five years past, 291. The health of the city is generally good all round.

Ten out of 24 native prisoners in the Philippines, who were experimentally inoculated with cholera virus, died. The operators explain that the virus was contaminated with bubonic plague. The Governor-General has exonerated the Scientists and the Government will take care of the families of the dead.

On the proposal of Dr. Pedley, the Rangoon Municipal Committee have decided to seek the co-operation of the principal Municipalities in India and Burma in representing to the Government the urgent necessity of measures dealing with the social evil.

A clean plague sheet was again returned for Rangoon on Saturday, there being no new cases, no deaths from plague, and no cases being under treatment.

Captain Rost, Resident Medical Officer, General Hospital, is under treatment in the Rangoon General Hospital for what is thought to be septic infection.

THE value of Fellows' Syrup in the debilitated conditions following Cholera, Malaria, Typhoid, and other fevers, is most marked; and in the treatment of Anæmia, Neurasthenia, Bronchitis, Influenza, Pulmonary, Tuberculosis, and Wasting Diseases of Childhood, and during Convalescence from Exhausting Diseases.

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ORIENTA APERIENT WATER

Is a clear, pure water, containing the most soluble purgative salts effectively combined.

Acts as an intestinal antiseptic, as well as a purgative, eliminating germs and preventing auto-infection (ptomaine poisoning). This action is solely due to sodium sulphite contained as a fixed compound in the water.

Is acceptable to nearly all patients, as it never produces nausea, weakness nor thirst. In its use purgation is not followed by constipation, as is unfortunately and commonly the case with other purgative waters.

Does not weaken; it produces a tonic effect, stimulating the whole system; appetite is increased, sallowness and foulness of the breath disappear, headaches and vertigo vanish.

Is the only purgative water the use of which is unaccompanied with disadvantages in genito-urinary diseases.

Relieves women suffering with hemorrhoids and diseases of the uterus and ovaries, by reducing the congestion of the pelvic viscera.

Re-establishes the normal flow of bile, and is thereby a prophylactic in cases of biliary colic, due to the passage of biliary calculi.

Is indicated in cases of flatulency, bilious attacks, eczema, glandular enlargements and scrofula.

Benefits chronic nervous conditions, atony of the stomach and intestines, certain forms of diseases of the heart and circulatory system, chronic cases of skin affections and certain diseases of the lungs.

If used regularly alone, will often suffice in cases of influenza, diarrhœa, malaria, gastric and febrile disorders and infectious diseases by enabling the engorged, digestive, circulatory and lymphatic systems to regain their normal condition.

Acts in trifling doses. One small wineglass taken on an empty stomach immediately before breakfast produces a well-marked laxative effect in an adult. The dose for women or children should be reduced to one-half or one-third.

Is now considered an indispensable mineral water, especially in large city practices where it is important to husband the patient's strength, under penalty of their developing anæmia, or breaking down under the nervous strain and becoming neurasthenics.

Is cheapest because best. It is now prescribed by the leading physicians and stocked by all first-class retail druggists.

The ORIENTA Manufacturing Co., Cal., Ind.

A sample bottle will be sent free to any Physician if he will pay express charges.

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Current Medical Literature.

MEDICINE.

NOCTURNAL ENURESIS.

Belladonna is the best remedy in the drug treatment of nocturnal enuresis, and children bear it well. Sir William Whitla suggests the following mixture to be prescribed for a child seven years old :

℞ Potassi bromidi, ʒv.

Tincturæ belladonnæ, ʒv.

Syrupi simplicis, ʒj.

Aq. floris aurantii, ad ʒiv.

Mics. Signa : Teaspoonful before retiring.

It is found that liquoris strychninæ hydrochloridi, combined with liquoris atropinæ sulphatis, has given excellent results. —The Practitioner.

A METHOD TO DETERMINE IN ONE HOUR THE ALBUMIN CONTENT OF URINE.

By Dr. G, Buchner (Munchner medicinische Wochenchrift.—

The author experimented with this method for several years and, with few exceptions, found the results to be so close to weight analysis, that he warmly recommends his apparatus for clinical purposes.

The procedure is as follows : Place exactly eight cubic centimeters (mark 1) of clear filtered urine into the test-tube and cautiously heat to boiling. Then add two to three drops of nitric acid (mark 2) [with alkalin urine sufficient acid should be added to produce distinct acid reaction] and two cubic centimeters (mark 3) of saturated sodium chloride solution. Mix carefully by shaking or stirring with a glass rod. While shaking, pour the contents of the test-tube into the albuminometer, which is placed in the perforated cork. Note the time, and aid precipitation of the albumin by gently tapping the apparatus. After exactly one hour read off, with aid of a hand lens, the height of the column. Each cubic centimeter corresponds to 1.0 pro mille, each 1-10 cc. to 0.1 pro mille albumin.

In most cases a coherent deposit of albumin soon occurs. Sometimes, the albumin does not thus settle, but forms a number of isolated flocculi, this is noticeable within the first five to ten minutes. In this case carefully rotate the apparatus, or better, stir with a slender glass rod. If no albumin is precipitated after one hour, but only a more or less opalescence or a suspension of barely visible flocculi is formed, then the urine contains less than 0.1 pro mille albumin. Mucinous substances, nucleoalbumin and the like also cause a similar clouding. This albuminometer is adapted for urines containing 0.1 to 3.0 pro mille albumin.

The accuracy of the method is shown by the following data taken from a large comparative table :

Albuminous urine, weight analysis.	Esbach	Amount of albumin pro litre, Buchner's method, in one hour.
1.88	1.25	1.6
0.87	0.60	0.8
0.88	0.60	0.7
0.25	——	0.2
0.50	0.40	0.6
1.10	0.90	1.2

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They appeal alike to the man with thousands and the man with shillings.

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SURGERY.

INTESTINAL OBSTRUCTION DUE TO GALL-STONES.

Gall-stones may obstruct the bowel in five different ways, obturation being the most usual form. The stone may get into the bowel through the common duct, but usually enters from the gall-bladder by obturation, via the duodenum, and may lodge anywhere from the pylorus to the anus, but in the majority of cases is found in the ileum. As a rule, the gut is not damaged; but gangrene and perforation occur if the obstruction is not promptly relieved. The symptoms are those of acute, but often not complete, obstruction of the bowel. A previous history of gall-stone disease is found in most cases. The presence of a migrating tumor, originating in the gall-bladder, or a stationary tumor of egg size and shape, and hard, is of great diagnostic value, but it is absent in most cases. Tenderness and rigidity are not present until late. Shock is not marked. Multiple attacks of bowel obstruction are significant of gall-stone ileus. Exploratory incision is the best means of making diagnosis in the majority of cases. The mortality is 50 per cent. This large mortality the author considers to be due in no small measure to the advice given by many authors to delay operation until a fair trial of medical treatment, massage, etc., have failed. M. F. Porter (Medical Record).

HÆMATURIA.

For practical consideration the renal conditions producing hæmaturia and accompanied by pain are calculus, tuberculosis, and tumor. In calculus there is frequently a colic pain over the affected kidney, radiating down the ureter, and increased urinary frequency. The hæmaturia and pain are diminished in the recumbent position. In tuberculosis hæmaturia is rarely profuse, is intermittent in character, not affected by rest or exercise, and always accompanied by moderate pyuria. Tubercle bacilli in the urine are convincing. In tumor, hæmaturia is profuse, without apparent cause, not necessarily accompanied by pain, and has a distinct tendency to intermit. A well-defined tumor is usually present by the time the physicians's attention is called to the case.

Among conditions in which hæmaturia without pain is present are chronic interstitial nephritis, angioma of a renal papilla, and benign or malignant growths of the kidney. There is also a painless hæmaturia, classed as essential or idiopathic hæmaturia, in which hæmorrhage is profuse not affected by rest or exercise, and not attended by any known pathologic leisons. This condition does not include tropical hæmaturis due to micro-organisms.

The etiology is a matter of academic speculation. Various origins have been assigned. The author considers that the majority of such cases are in reality due to degenerative changes in kidney structure. With regard to diagnosis, renal hæmorrhage can be distinguished in a clear medium by the cystoscope, of which the author prefers the indirect type with a cold lamp. He is disappointed in routine ureteral catheterization and the use of urine separators. H. M. Christian (New York Medical Journal.

PROSTATITIS.

E. G. Ballenger, Atlanta, Ga., bases his paper largely on the facts observed or confirmed by the study of over one hundred prostates. More than half of these were chronically inflamed and nearly one-third of them were normal. He devotes special attention to the chronic inflammations, in nearly 80 per cent. of which the patients gave a history of a previous gonorrhœa. In one of his patients were found large numbers of colon-like bacillus in the prostatic secretion, but no gonococci. The average age of the patients was 30—the ages varying between 19 and 50 years. Ballenger's experience leads him to believe that in the majority of patients chronic prostatis and seminal vesiculitis are insidious, the patient being unaware of the fact that his prostate is involved. He concludes his article as follows: "The prostate gland is without doubt the cause of the majority of the obscure urinary and sexual symptoms and should always be examined where there is any uncertainty as to their origin. Among the factors that tend to perpetuate a chronic or recurrent gonorrhœa a nidus of infection or irritation in the prostate is the most frequent cause. It is in this variety of prostatic inflammation that the largest number of errors are made in the diagnosis. Palpation, pus and proteid are and three things to rely on in reaching a conclusion as to the condition of the prostate. By palpation through the rectum, the gland, if diseased, may be found enlarged, nodular, irregular, boggy or apparently normal. Pus in the secretion expressed from the meatus or found in the urine or fluid voided after massage, when the urethra and bladder are excluded as possible sources, is positive proof that the prostate is inflamed. Proteid in the fluid passed after massage is equally as reliable as pus in the diagnosis of prostatitis.—Journal of the American Medical Association.

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OBSTETRICS.

ABDOMINAL SECTION FOR PUERPERAL PERITONITIS.

Dr. Gordon reports 10 cases, all critically ill with puerperal peritonitis at the time abdominal section was undertaken. Six out of the 10 recovered. In the first of the 6 infection was traced to dilatation shortly after the puerperium ; the cervix was deeply lacerated. Perforating pyosalpinx and abcess of the uterus were detected ; the abscess was drained through Douglas's pouch after removal of both tubes and the right ovary. In the second, an instance, of neglected abortion, the the patient's condition was very grave. Pus was evacuated from Douglas's pouch, but as it was clear that more was pent up in the peritoneum abdominal section was performed. A pint and half of pus was removed. Pus exuded from the ostia of the Fallopian tubes, and both ovaries were suppurating ; the tubes and the left ovary, with the portion of the right which contained an abscess, were amputated. The next successful case was almost moribund on admission ; she had been subject to rigors for a week and treated with injections. Abdominal distension was extreme, and a big mass could be felt in the right iliac fossa. The peritoneal cavity was full of pus, and a large tubo-ovarian abcess lay on the right side. No attempt was made to cleanse the peritoneal cavity, but an opening was made in Douglas's pouch large enough to drain the abscess cavity and the general peritoneal sac. The lower end of the abdominal incision was also drained. The right Fallopian tube was removed. Cultures from the peritoneal pus showed streptococci only. The temperature fell to normal on the third day, and the abdominal wound healed soundly. The remaining 3 successful cases resembled those above related in general characters. Gordon considers that in these desperate cases the individual patient should be given a chance, the suggestion that a patient with an abdomen full of pus can recover without an operation being hardly worth consideration. He is not in favor of flushing the peritoneal cavity, yet credits the practice in one of the cases where it was adopted, with the successful issue of the case. Lastly, Gordon regrets that so often, as in nearly all his 10 patients, time is wasted in ineffective palliative and faulty local treatment. The intrauterine douche often does more harm than good ; the uterus cannot be cleansed, when septicæmia has set in, by merely playing solutions and powders on its anterior, for it needs scrubbling. —Journal of Obstetrics and Gynæcology of British Empire June, 1907.

HEART DISEASE IN PREGNANCY AND LABOR.

V. Wenczel reports eight cases of heart disease observed during gestation and labor. He believes that although the role played in heart disease by pregnancy, labor and the puerperium is not yet fully determined they probably predispose to pathologic changes of the heart. Organic heart disease existing before pregnancy may be most unfavorably affected by gravidity, labor and the puerperium.

It is only when induced during the first two months of gestation that artificial abortion is, strictly speaking, a safe procedure in cases of cardiac disease. After the formation of the placenta—from the third month on—there is much greater danger of hemorrhage, especially during the third and fourth months, since the placenta adheres more firmly to the uterus, and the hemostatic action of the uterine contraction and retraction is less complete. From the fifth month the hemorrhage is not so great and toward the end of pregnancy it assumes a normal character.

In the eight cases reported by V. Wenczel the women came under observation with all the symptoms of marked failure of compensation. In four the disturbances of compensation had been present for years before pregnancy occurred ; all of the latter died. In three cases the disturbances appeared in the first half, in one case in the second half of pregnancy. Six of the women were primiparæ, three of these ranging in age from 37 to 47 years ; two were 3-para. Artifical abortion was done in one case ; podalic version in one complicated with placenta prævia ; there was one case each of dilation of the os, internal podalic version, extraction and removal of placenta, two forceps operations, and two spontaneous births. Six of the women died ; in two of these the child lived ; two women left the clinic in good health, and their children also survived. Of the eight births three occurred at term, three were premature, two ended in aborption ; three suffered from insufficiency of the bicuspid valve, (one of these died) ; three from stenosis of the left venous orifice, one from aortic valvular insufficiency and one from parenchymatous degeneration of the myocardium.

v. Wenczel says that among the 10,998 births occurring at the First University Female clinic at Budapest during the past eight years there were seven cases of non-compensated heart disease ; the eighth case reported was treated in the piliclinic. He is led to conclude that disease of the ostia and valves of the mitral orifice is commoner than stenosis or insufficiency of the aorta, mitral insufficiency and mitral stenosis each being found in three cases. Most observers agree that mitral stenosis is most dangerous, and in this series all three of these cases died.—Monatsschr. f. Geb. u. Gyn.

PATHOLOGY.

MODIFICATION OF LEISHMAN'S METHOD OF ESTIMATING THE OPSONIC INDEX.

Dodds (Brit. Med. Jour.) after experiments with blood and citrated emulsion of tubercle bacilli, said the results showed marked discrepancies between the Wright and Leishman methods, a normal index working out, for instance, to 2.0 or to 0.5, and seldom exactly to 1.0. After trials in various directions it appeared that the instant factor vitiating results was the differing number of leucocytes in the respective bloods. Counts of the leucocytes, estimations of the index by Wright's and by Leishman's method modified, were then made, and it was found that the figures, expressing the index by Leishman's method and the number of leucocytes, varied inversely, the emulsion being constant. By a simple formula, based on the above proposition, several apparent indices were corrected, and were then found to agree closely with those estimated by Wright's method; but still discrepancies occurred, and for the following reason: It is usually convenient to obtain blood by the pressure of an elastic or other band; if the same drop of blood thus obtained is used both for the index and leucocyte count, good results are produced. But this needs agility, and in practice would require an assistant. If different drops of blood are used, the hemocytometer and incubation pipettes may contain differing numbers of leucocytes; it is inconvenient to get blood without pressure, as a deep puncture has then to be made, possibly daily. Finally, a simple plan was hit upon; after mixing blood direct from the finger—under any pressure, with the bacillary emulsion, the number of leucocytes in the mixture itself was counted, either before or after incubation, each batch being done in the same way. For this the red blood corpuscle pipette serves, and the process is more rapid if there is one for each blood; but any pipette and any dilution desired may be used by drawing up successive volumes of the mixture and diluent as recommended by Wright. After using a drop or two to make a film the mixture is kept in its capillary tube till required for the leucocyte count. The total number of leucocytes need not be etimated, the figure expressing the average for the fields sufficing. A fallacy exists that the phagocytes are not in constant proportion to the total number of leucocytes. The actual modification of Leishman's method is very simple. The capillary pipette is that in ordinary use; it is convenient to make a bend in it 2 to 3 inches from its distal end. A rubber tube, as the hemocytometer pipette, is easier to manage than a rubber teat, or a Wright's throttled pipette may be used. A mark is made above the bend, giving a long column of blood and emulsion, making for greater accuracy of dilution and providing enough of the mixture for its two purposes—namely, for making a film and for leucecyte count. The emulsion consists of (tubercle) bacilli suspended in citrated normal saline—say, 0.75 per cent. each of sodium citrate and soudium chloride. This emulsion is sucked up to the mark above the bend; it will be found that it is difficult or impossible to do this with a rubber teat owing to fluidity of the emulsion (unless a throttled pipette be used). The pipette may now be laid down, and the column of emulsion will be found to stay steady while a puncture is made in the finger. A short column of air having been taken up, a column of perfectly fresh uncoagulated blood is aspirated to the mark, and the whole rapidly blown out on to a glass slide, so that the citrate may at once act on the blood and so prevent coagulation; this is not so efficiently done if blood is taken up first. The two fluids are then mixed aspirated, sealed, and incubated, unless a portion be reserved for the leucocyte count. The films are made in the usual way, by blowing out and mixing before spreading, this remixing is important if the estimation of the leucocytes is made after incubation. The film need not be fixed before staining with carbol fuchsin; the index is calculated in the usual way. To correct the apparent index, multiply the control index by its corresponding number of leucocytes and divide the result into the other index multiplied by its correspending number of leucocytes.

—:o:—

THERAPEUTICS.

SODIUM CITRATE.

The use of sodium citrate in the treatment of dyspepsia in adults is advocated by Dr. Lacheny, especially in gastric hypersthenia acompanied by pain, vomiting, etc. Sodium citrate allays gastric irritability, probably by substituting a feeble organic acid for the hydrochloric acid of the gastric juice. He points out that the soothing effect of Riviere's potion is due to the introduction of citrates into the stomach. A dose of one gramme of sodium citrate sufficed to allay the painful crises of dyspepsia and 1½ grammes promptly arrested most attacks of vomiting.

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VERONAL.

Merck's Archives for October (from Therap. Monatschrift) states that if a hypnotic, which is insoluble or only soluble with difficulty in water, be given in solution, a much more rapid action will be obtained in smaller doses. Posthypnotic symptoms and signs of intoxication are thus less liable to appear. W. Cohn, of Berlin, states that one author took crystallised veronal 0.75 gram (12 grains) at 2:30 p.m., since the action was not sufficient, a second dose of 12 grains was taken (after a warm plate of soup) at 10-30 p.m.; there was then a prompt effect and the next day stupor, dryness of the mouth, and red urine; the trouble was that the second dose dissolved in the soup, while the first was taken dry, thus a cumulative action set in. It follows that every dose of veronal should be followed by a copious draught of warm fluid, and that 0.5 grams (seven and one-half grains) will usually be sufficient. The powder or the tablet may also be dissolved directly in warm water, but it is not sufficient to take it in a wafer, and then drink cold water. Rudolph Topp has also demonstrated that the administration of veronal in moderate doses is never followed by any untoward effects on the following day, if the precaution is taken to order also sufficient warm fluid to permit of a solution of the drug in the stomach. The writer has experimented extensively upon himself, and has only suffered from depression on the day after, when he took the powder dry in large doses. L. Duncan Bulkley, has found that veronal, unlike trional, which tends to increase the trouble, will often give relief in cases of itching and apparently with no subsequent harm.

CANNABIS INDICA.

J. M. French in the American Journal of Clinical Medicine for November, classes the chief uses of this drug under two heads—1, as an analgesic to relieve pain and lessen spasm; 2, a hypnotic to quiet the nervous system and produce sleep. As a palliative it may be employed in a wide range of affections, but its most remarked and favorable effects are to be seen in painful and spasmodic affections. It is useful in neuralgic pains, and in some cases of headache, notably sick headache or migrain. As a remedy for irritable and spamodic coughs it is fully as effective as, and much safer than, the opiates. The extract is perhaps the most efficient preparations, though, like all the preparations of this drug, it varies greatly as to medicinal activity in different specimens. The fluid extract is also extremely variable. Cannabin and cannabin tannate are hypnotic in doses of five to 10 grains. The standard granules in use by the alkaloidists contain 1-67 grain and are given in doses of three to six every two hours till effective.

CARDIAC DRUGS.

The Medical Council, for November, believes that the greatest danger in the use of digitalis grows out of the large and heedless application of the remedy to all conditions of altered heart action. Discrimination is needful. Digitalis is in nonsense a remedy for heart disease, but a regulator. Its prime indication, ever and always, is failure of compensation. The most briliant results of digitalis are obtained in mitral insufficiency with failing compensation. Strophanthus is our best substitute for digitalis. It acts just like digitalis, but a little less so, and is less liable to produce nausea and vomiting. It is an error to regard nitroglycerine as a heart tonic. It is properly employed to relieve the heart of excessive work. Its prime indication is high arterial tension. Adrenalin is regarded as one of the most powerful of heart stimulants. In many desperate cases it is the only drug that shows desirable effects.

HELENIN.

In the Medical Review of Reviews for September, James Burke summarizes the uses of helenin, a fluid crystallizable substance derived from Inula Helenium or elecampane. He believes its most important therapeutic action is in neutralizing toxins peculiar to deranged function of the lungs. As a topical application it successfully allays irritations of ulcers of the surface of the body through the same process that it prevents putrefaction of the urine. It is especially useful in allaying the itching of surface lesions of the skin. He cites cases as to its value in respiratory conditions: in one patient with bronchopneumonia, aged 46, the disease resisted all treatment for eight months, he was given helenin grain one sixth, six times a day, and was cured in fifteen days. A consumptive under one-sixth grain ten times a day improved and in chronic bronchitis the cure is nearly complete. It is a therapeutic standby in pertussis; one-sixth grain every hour for urgent lung irritation with hoarseness.

ACETANILID.

This is one of our most useful drugs, but also one of our most abused. Physicians give it in ten-or twenty-grain doses and then condemn it because it produces cyanosis. If morphin were used as recklessly the results would be even more damaging. If one or two five-grain doses of acetanilid do not produce the results desired, it is unwise to continue the drug. It should always be followed by a glass of water in order to dilute it and hasten absorption, and if idiosyncrasy to the drug is suspected it should be fortified by a little brandy or aromatic spirits of ammonia. Powdered acetanilid makes a good dusting powder for wounds, it being both analgesic and antiseptic. For painful affections of the throat, as in tonsillitis, an insufflation of powdered acetanilid gives very prompt and pleasing results. Acetanilid is a drug for acute and painful affections and not for prolonged administration.—Medical Summary.

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Correspondence

Audi Alteram Partem.

CHOLERA FROM MECCA.

To the Editor, The Indian Lancet.

Sir,—Professor Chantsmesse, of the Pari-Academy of Medicine, addressing a scientific gathering, declared that Europe's greatesr peril lay in Asia. "Two years hence, he said, "all Europe will be at the mercy of a cholera outbreak at Mecca. Cholera epidemic along all the Mediterranean seaboard is within the bounds of possibility for the next spring, and preventative measures must be taken at once. The disease has broken out at Mecca, as seems almost invariably the case when the Mussulman pilgrimage falls either in mid-winter or in mid-summer. From Mecca it is easy for an epidemic of cholera to reach Egypt. If that should occur this year all the Mediterranean basin would be affected by next summer. When the new railway will have been built in the Hedjaz, by which it will be possible to travel in four days from Mecca to Syria, the pilgrims will move more rapidly and the bacilli more quickly also with them.

Yours etc.,

M. F.

MEDICAL OFFICERS AND THEIR FEES.

To the Editor, The Indian Lancet.

Sir,—The subject of the Indian Medical Service and the fees paid to officers, a correspondent points that although neither doctors nor patients are staisfied with the present arrangement whereby the patient pays at the rate of Re. 16 a visit or compounds for the treatment of his family at the rate of one week's pay per annum, no one has, however, suggested. any better arrangement by which the services of the I. M. S. officer would come within the means of a larger number. To remedy this the writer suggests that the fee per visit should be regulated by the income of the patient, and be at the rate of one per cent. of monthly pay and emoluments; the lowest fee to be Rs. 8, the highest Rs. 32, with a rate of milage outside the station of, say, Rs. 5 one way—the compounding system to be done away with entirely. This arrangement would not interfere with the practices of Assistant Surgeons, and would confirm in type with what is done in all except consulting practices in other countries.

Yours etc.,

PYTHIAS.

KASAULI EXCISE LABORATORY.

To the Editor, The Indian Lancet.

Sir,—The report that Central Excise Laboratory at Kasauli is to be closed in March next is quite misleading. It is true that the term of two years for which the experiment was sanctioned will expire in that month, but it is most probable that it will be extended for another year at least, the establishment having many important investigations on hand and more in prospect. The excellent work done by Major Bedford, I.M.S., as Director would, indeed, seem to justify the permanent retention of the laboratory. The Local Governments have been consulted on the subject and their replies have yet to be received.

Yours etc.,

A. M. S.

THE ALCOHOL PUZZLE.

To the Editor, The Indian Lancet.

Sir,—Marked differences of opinion among the doctors on the question of alcohol have been revealed at the meeting of the British Association at Leicester. These differences have caused a good deal of amusement and, perhaps, even given considerable satisfaction. After what was said at Leicester, no one can settle the question of the use of alcohol by simply saying that it is a poison. The moderate drinkers, and especially the gentlemen who still like to have two or three glasses of port after dinner, will bless the name of Dr. Dixon, who strongly denounced as faddists those who altogether condemn alcohol. The differences among medical men have more than personal or professional interest. They prove that it would be utterly futile in this country to attempt to make the sale or consumption of alcohol a penal offence. It is evident that the bulk of the medical profession, though they may not think the use of alcohol of much advantage, do not regard it as very deleterious. Of the doctors themselves only a small proportion are teetotalers, and the bulk of them take alcohol like other people, because it is pleasant, stimulating and agreeable.

Yours etc.,

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SLEEPING SICKNESS.

Some Diversities Of View.

To the Editor, The Indian Lancet.

Sir,—Copies have been issued by Dr. Louis W. Sambon, which it was found impossible to include in the proceedings of the First International Conference on sleeping sickness held in London last June. Dr. Sambon was the Italian delegate to the Conference, and he has some very interesting things to say. The result, however, is to leave the inexpert reader with the feeling that the experts are still a long way from the goal of a unanimous opinion. The Italian specialist's views differ entirely from those of Colonel Bruce and Professor Minchin, though based upon nearly the same facts. He controverts the very general belief that sleeping sickness is transmitted by Glossina palpalis in a direct and purely mechanical way, and is based chiefly on Colonel Bruces statements concerning the part played by tsetse flies in the propagation of nagana and sleeping sickness.

Although, of course, it is quite possible that occasionally both nagana aad sleeping sickness may be conveyed by direct mechanical transmission, I am convinced that under natural conditions this is not the usual mode, but that in each case the fly acts as a true alternative host, and that the respective parasites go through a peculiar cycle of development and multiplication within the body of the insect before they are returned to fresh vertebrate hosts.

Dr. Sambon's next point is that several species tsetse flies carry the parasite, and that it is quite possible that Colonel Bruce believed that he was working on Glossina morsitans, while he may probably have been employing various species indiscriminately. Dr. Sambon indicates Glossina palpalis as the medium of infection, because of its wide distribution along the whole of the West Coast of Africa, and because it quite recently has been found also in Uganda, where the disease was spreading and assuming alarming proportions.

Taking into consideration the peculiar mode of development of the tsetse flies, the larvæ of which develop, feed and moult within the body of the parent and become pupæ at once on extrusion, I venture to suggest that probably the infection is transmitted by heredity, and that the progeny of infected female flies are already infected when they emerge from their puparia.

On the 23rd November, 1905, Professor Koch, in a preliminary Report on the results of a voyage of investigation to East Africa, states that he had the opportunity of examining numerous tsetse flies infected with trypanosomes. One of the flies was a Glossina morsitans, another one was a Glossina pallidipes, and fifty-eight were specimens of Glossina fusca, a species widely distributed and very numerous in nagana-infected regions.

On the general question Dr. Sambon says :—

A knowledge of the zoological distribution of each true species is of the utmost importance, because, obviously, all efforts at combating a disease are futile unless they include all factors concerned in its distributions. An instructive example is that of plague. We know that fleas transmit the infection, and insecticide powders and other measures directed against vermin have been very very appropriately employed from the remotest antiquity, but the most important factor in the dissemination of plague is, without doubt, the black rat (Mus rattus), which conveys the plague bacteria and the infected fleas to distant parts and spreads the disease to the rats of the localities in which it arrives, giving rise to the epizooty which invariably precedes, the epidemic. But besides the rat, many other animals may help to spread and keep up the infection. The most dangerous to man are the dog, the cat, all kinds of cattle, and the animals of the farm-yard. It is this complexity of the œcology of Bacillus pestis which makes our fight against it so difficult, and so it may be with trypanosomiasis.

There can be little doubt that the best chance of dealing efficiently with sleeping sickness lies in the destruction of the tsetse flies. Of this there is proof in the success which has attended all serious endeavours at combating malaria, yellow fever and filariasis by destroying the mosquitoes which foster and disseminate these infections.

How we may best destroy tsetse flies is not easy to suggest without a full knowledge of the life-habits of the species we have to deal with. From the little that we know at present I should think that it were easier to exterminate tsetse flies than mosquitoes. The limitation of tsetse flies to certain particular stations, the slow rate of their breeding, the accessibility of the pupæ are all very favourable circumstances. The clearing of jungle by the water edge and round settlements has already given excellent results. The pupæ might be looked for at certain seasons and destroyed in the same way as locust eggs. We should not forget that sleeping sickness often presents

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long periods of latency which may last for years. But even if it were possible to restrict the movement of all infected natives within certain boundaries, would it be possible to prevent the transit of infected animals?

As to treatment, whether by arsenic, mercury, or the aniline dyes, it has not been hitherto very encouraging. Professor Koch claims atoxyl to be true specific in sleeping sickness, and other physicians have spoken of it with similar enthusiasm, but so for as Dr. Sambon is able to judge, its action appears to be quite transitory.

Yours etc.,

C. W. S.

COMMERCIAL VALUE OF SNAKE VENOM.

To the Editor, The Indian Lancet.

Sir,—This is the latest industry started in New South Wales. The demand for this poison is said to be growing rapidly. It is used in medicine and also in several mechanical arts and industries. The market price at present is from 20 to 25s. a grain, or £6,000 per pound tory. The high price is of course due to the enormous difficulties that have to be overcome in the collection of this deadly venmon, The snakes have to be caputred alive. These abound in swamps and morasses, and have to be caught in early morning or at twilight. The method adopted in capture is interesting. Some men depend on their fingers alone with many kinds of snakes; other use a batten to hold the head down till the fingers obtain the requisite grip on the back of the head. The snakes, after capture, go to the operator whose work is no less dangerous.

The operator's work is it can be seen, in some respects more dangerous than that of the capturer, as the reptiles are handled alive under both processes, but in the second are goaded to anger and generally restored in that state to bag or box for further treatment. Some operators extract the poison by cutting out the poision bag in its entirety. They cut into the snake's head, and, having detached the glands, fasten the valves and store them away in bottles; others goad the snake to bite through india-rubber bands and eject its venmon on to a glass-plate beneath. Either way secures the venmon; but in the latter care must be taken to prevent the entrusion of impurities.

Yours etc.,

W. G. L.

WORK OF MEDICAL MISSIONS IN INDIA.

To the Editor, The Indian Lancet.

Sir,—The current number of "Medical Missions in India" contains list of all the medical missionaries in this country. They number 313, a net increase of 12 during the year. The women graduates are in the majority—187 against 126 men. There are also 124 European or American trained nurses on the staffs of the various mission hospitals. The nurses have been increasing at a proportionately higher rate during the year, from 98 to 124,—and this may be taken as an indication that the work is becoming more highly organised. The medical missionaries represent practically all the Christian demonstrations engaged in work in India and a variety of nationalities. England, Scotland, Ireland and Wales are all well represented, as well as Canada, Australia and New Zealand among the colonies. A large number hail from the United States, and we note the name of one lady medical who represents the blend known as American-welsh. Of continental countries Germany is well to the front, and the Basel Mission in Calicut and the South Mahratta country owes its origin at least to Switzerland. Much more recently the Swedish Church has taken a share in the philanthropic work, having sent out a doctor and two nurses who are at present settled at Madura and Tanjore in the South. The Salvation Army now has two hospitals in India with a staff of European doctors and nurses, one at Nagercoil in Travancore and the other at Anand in Gurjerat.

Yours etc.,

W.

Wanted known, that a Dispensary, where all medical and surgical accessories are available has been opened at 3, Wellesley Street, under the name of Ellwood & Co.

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and the various disorders of the breathing passages.

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Reviews of Books.

Diagnostics of Diseases of Children. By Le Grand Kerr, M.D. Professor of Diseases of Children at the Brooklyn Post-graduate Medical School. Octavo of 542 pages, Illustrated. W. B. Saunders Company London, 1907.

This work was written with the hope of doing something to secure for the child a "square deal" in the practice of medicine. The work is thoroughly practical and will, without any doubt, be a valuable aid to those who are engaged in the general practice of medicine to an early recognition of disease when it occurs in the child.

Diagnosing disease in the child is not as easy a matter as diagnosing it in the adult, for the child is unable to properly explain what it feels. This fact led the author to prepare this work, and we take pleasure in saying that he has succeeded most admirably.

Government Medical Notifications

INDIA.

Colonel P. A. Weir, M.B., I. M. S. (Bengal), Inspector General of Civil Hospitals and Sanitary Commissioner, Central Provinces, is granted privilege leave for two months and eighteen days combined with leave out of India for five months and thirteen days. under paragraph 226, Army Regulations, India, Volume II, with effect from the 12th March 1908.

The services of Major A. Miller, M.B., I.M.S. (Madras), are replaced at the disposal of the Government of Madras.

The services of Captain W. T. Finlayson, I.M.S., are placed temporarily at the disposal of the Government of the Punjab for employment in the Jail Department.

The services of Captain A. H. Proctor, I.M.S, are replaced at the disposal of His Excellency the Commander-in-Chief in India.

Captain G. O. F. Sealy, I.M.S., is placed on special duty under the orders of the Hon'ble the Agent to the Governor-General and Chief Commissioner in Baluchistan, with effect from the 1st December 1907, and until further orders.

The following promotions are made, subject to His Majesty's approval:—

Senior Assistant Surgeon and Honorary Lieutenant Albino Rodrigues, to be Senior Assistant Surgeon, with the honorary rank of Captain;

First class Assistant Surgeon Alexander Grant Gazalett, to be Senior Assistant Surgeon, with the honorary rank of Lieutenant,—

vice Senior Assistant Surgeon and Honorary Captain A. P. Rodrigues, retired; with effect from the 9th December 1907.

Second class Senior Hospital Assistant, ranking as Jemadar, T. Narayanasami Saminathan Nayudu, to be Senior Hospital Assistant, 1st class, ranking as Subadar;

First class Hosspital Assistant C. Sadasiva Mudali, to be Senior Hospital Assistant, 2nd class, ranking as Jemadar,—

vice No. 1139, 1st class Senior Hospital Assistant C. P. Nagappau Pillai, deceased; with effect from the 29th November 1907.

The undermentioned 2nd class Civil Assistant Surgeons of the Imperial Establishment, having passed the prescribed examination are promoted to the 1st class, with effect from the 11th November 1907:—

Pundit Ajoodhia Patti.

Purushatam Dass.

Third grade Civil Assistant Surgeon Muhammad Sharif, of the Imperial Establishment, having passed the prescribed examination is promoted to the 2nd grade, with effect from the 11th November 1907.

The services of the undermentioned Assistant Surgeons of the Indian Subordinate Medical Department are placed at the disposal of the Government of Burma for temporary civil employment in that Province, with effect from the dates noted against their names:—

Second class E. J. Greson, 12th December 1907.

Third class J. A. Colkers, 14th December 1907.

BENGAL.

Babu Biman Bihari Basu, second grade Assistant Surgeon, Teacher of Medicine, Midwifery and Pathology, Temple Medical School, is granted privilege leave for three months, under article 260 of the Civil Service Regulations, with effect from the 1st March 1908.

Maulvi Sayid Ali Hasan; third grade Assistant Surgeon is placed on special duty in connection with Plague work in the Patna Division until further orders, with effect from the 24th December 1907.

CENTRAL PROVINCES.

Third Grade Civil Assistant Surgeon Stephen Ramchandra Rao, who was in Medical charge of the Hon'ble the Chief Commissioner's Camp by Order No. 38, dated the 12th December 1907, reported himself in this office on the forenoon of the 1st February 1908, and is re-posted to Nagpur for general duty.

BURMA.

Third Class Military Assistant Surgeon J. A. Clokers relinquished charge at the Lunatic Asylum, Rangoon, on the afternoon, of the 7th January 1908 and assumed charge at Kemmendine Dispensary, Rangoon District, on the forenoon of the 8th January 1908.

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